
Class No.....

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A BRIEF HISTORY

OF THE

CYCLONE

AT CALCUTTA AND VICINITY,

5th OCTOBER 1864.



CALCUTTA:

O. T. CUTTER, MILITARY ORPHAN PRESS,

1865.

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A BRIEF HISTORY

OF THE

CYCLONE

AT CALCUTTA AND VICINITY.

OCTOBER 5th, 1864.

*Special Narrative of the Govt. of Bengal (General,)—
No. 20 of 1864, to the RIGHT HON'BLE SIR CHARLES
WOOD, BART., G. C. B., Secy. of State for India.*

Herewith I have the honor to forward, by direction of the

Genl. Progs. B., November 1864, Nos. 12-13, 78 and 87.

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Letter to Commissioner of Police, Calcutta, No. 4528, dated 27th October 1864.

Letter from Secretary, Government of Bengal, Public Works Department, No. 4928, dated 19th October 1864.

Letter from Secretary, Government of Bengal, Public Works Department, No. 5023, dated 21st October 1864.

Letter from Secretary, Government of Bengal, Public Works Department, No. 5024, dated 21st October 1864.

Letter from Secretary, Government of Bengal, Public Works Department, No. 5092, dated 25th October 1864.

Letter from Secretary, Government of Bengal, Public Works Department, No. 5256, dated 31st October 1864.

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Letter from Secretary, Government of Bengal, Public Works Department, No. 5443, dated 12th November 1864.

Letter from Commissioner of Burdwan, No. 169, dated 23rd November 1864.

Letter from Commissioner of Nuddea, No. 238, dated 5th November 1864.

Letter to Commissioner of Nuddea, No. 4989, dated 12th November 1864.

Marine Progs. B., November 1864, Nos. 6-7 and 41-42.

Marine Progs. November 1864, Nos. 5-42, 49-53, and 85-93.

Letter from Deputy Master Attendant, No. 2406, dated 19th October 1864.

Letter from Deputy Master Attendant, No. 2523, dated 20th October 1864.

Lieutenant Governor, copy of the correspondence detailed in the margin, relative to the destructive Hurricane which visited Calcutta and the neighbouring districts on the 5th October last, and to the measures of relief which were adopted by the Public and by the Officers of Government in order to mitigate the effects of the calamity.

From a Note recorded by Colonel Beadle, the Chief Engineer to the Government of Bengal, it appears that the gale had its origin at some point at sea in the latitude of Kyook Phyo

Letter from Deputy Master Attendant, No. 2532, dated 20th October 1864.

Letter from Deputy Master Attendant, No. 2574, dated 24th October 1864.

Letter from Deputy Master Attendant, No. 2643, dated 27th October 1864.

Letter from Deputy Master Attendant, No. 2814, dated 8th November 1864.

Letter from Sailors' Home Committee, dated 31st October 1864.

Letter to Commissioner of Police, Calcutta, and Master Attendant, Nos. 4821-22, dated 5th November 1864.

Letter from Commissioner of Police, Calcutta, No. 1423, dated 8th November 1864.

Letter from Master Attendant, No. 2829, dated 10th November 1864.

Letter to Commissioner of Police, &c., Nos. 4978-80, dated 12th November 1864.

Letter from Master Attendant, No. 2795, dated 7th November 1864.

Letter to Master Attendant, No. 4984, dated 12th November 1864.

Letter from Screw Mooring Committee, dated 28th November 1864.

Letter to Master Attendant, No. 5480, dated 1st December 1864.

Letter from Master Attendant, No. 2993, dated 3rd December 1864.

Emigration Progr., October 1864, Nos. 9-11.

Origin and direction of the gale.

with a slight inclination eastward along the right bank of the Hooghly at a pace varying from eight to twenty-six miles an hour. The full violence of the storm was felt at Calcutta from 10 A. M. to 4 P. M. of the 5th October, and about seven hours later at Kishnaghur. The direction of the storm remained the same throughout the greater portion of its course. It crossed the Ganges between Rampore Beaulah and Pubna, sweeping over the whole length of the Bograh District, and only taking a recurvature to the eastward when it had reached the degree of 25° north, after which it became expended in the Garrow Hills.

The destruction caused by the gale was two-fold. There

Destruction was of two kinds. was first the violence of the wind, to

which is to be attributed the widespread destruction of houses and of trees; and secondly, there was a storm wave which the gale brought up from the Bay of Bengal and drove in front of it up the line of the River Hooghly, and over the country on either side of it for a

* It has, however, been subsequently ascertained that the gale took its origin somewhere about the Andaman Islands.

(19° north) and about 100* miles west of the Arracan Coast. Traveling from that point at first in a westerly direction, and inclining afterwards to the north, it first struck the coast of Bengal about the Balasore Roads and Hidgellee. Here, during the night of the 4th, it raged with great violence, and from this point the centre of the storm appears to have travelled in a northerly direction

distance of several miles. It is needless to say that this wave, rising as it did in some places to a height of 30 feet, sweeping over the strongest embankments, flooding the crops with salt water, and carrying away entire villages, was very much more disastrous in its effects than the mere violence of the wind.

The injury caused by the gale in the Town and Suburbs

Injury caused by the gale in Calcutta and the Suburbs.

of Calcutta is given in detail in the Report from the Commissioner of Police, dated 17th October, No. 1287. The damage was principally done in the northern part of the Town, where the native huts were blown down in great numbers. Even there it turned out to be less than had been at first anticipated, and the loss of life, considering the number of houses and of trees

blown down, was providentially very small. The table in the margin gives a tolerably accurate return of the loss of life and of the destruction of houses. The damage done to the Shipping in the river will be noticed in another part of this Narrative. For

	Europeans killed		Europeans wounded.		Natives killed.		Natives wounded.		Masonry houses destroyed.		Masonry houses damaged.		Tiled and straw huts destroyed.		Tiled and straw huts damaged.	
Calcutta ...	1	1	16	12	37	299	1,322	3,625								
Suburbs ...	1	...	31	3	65	264	39,376	969								

a day or two after the storm, many of the roads, both in the Town and Suburbs, were obstructed by the numerous large trees blown down. These were for the most part removed without delay; but the destruction of the finest trees in and around Calcutta has inflicted an injury on the Town from which it will take many years to recover, and the quantity of broken boughs and leaves which were blown into the tanks from the trees surrounding them, has in many places so deteriorated the water as materially to affect the public health.

HOOGHLY.—The gale was felt with great severity over the eastern and southern portion of the Hooghly District. The loss of life registered by the Police is given at 112, but no computation has been made of the number of houses blown

down, or of the value of the property lost in the district. The Civil Station of Hooghly suffered severely owing to the buildings being for the most part very old, and the Town of Serampore also was extensively injured.

BURDWAN.—The District of Burdwan has not suffered to any great extent, but at Culna a large number of boats were wrecked, and consequently much valuable property was lost.

NUDDEA.—The storm was felt with equal violence all over the Nuddea District, the vortex passing close to the Sudder Station of Kishnaghur. The full violence of the storm was not felt there till 5 P. M. on the 5th, from which time till 7-30 P. M. "it blew with terrific force from the east and north-east. A calm of about half an hour's duration then succeeded, after which the storm blew with nearly the same violence as before, but from a north-westerly direction. At about 9-30 P. M. it ceased." The Government buildings, the Railway, the Telegraph, and the Native Towns all suffered severely. No accurate returns of the loss of life have been received, but it is known that fourteen persons were killed by the falling in of houses. The loss on the rivers cannot even be approximately estimated. The rice-crop is not supposed to have suffered much, but the sugar-cane and pepper crops were much injured.

RAJSHAHYE.—At the Sudder Station of the Rajshahye District the storm continued all through the night of the 5th, the hours during which it raged most heavily being from 10 P. M. till 2 P. M. It blew first from the north-east, then from the north, shifted round to the north-west, and gradually got round to due west, when it subsided.

Both at Rampore Beaulah itself and throughout the district the damage done to native huts was considerable, but little life was lost, one case only having been reported. At Pubna the Government buildings suffered considerably.

BOGRAH.—The gale was felt very severely at Bograh. Its full violence did not commence till 2 A. M. on the morning of the 6th, and the wind is stated to have been mainly from the east and south-east. The damage done was very great. The Jail was blown down and the other Government buildings all

suffered. The Bazar was laid in ruins and a number of boats went down at the Ghats ; no loss of life, however, occurred on the river, but in the town twelve deaths were reported.

In all the districts hitherto referred to, the loss of life and property was occasioned solely by the gale. In the districts to which allusion will now be made, the principal agent of destruction was the storm wave which the gale drove up from the Bay of Bengal, and which, carrying away or over-topping the embankments on either side of the river, spread ruin and devastation to a distance of some eight miles inland ; and only after its force was expended by being spread over this extent of country, and after it had arrived within twenty miles of Calcutta, was it so far diminished as to be confined in the main within the actual river banks. Had the embankments below been of size and strength sufficient to keep this wave within their boundaries, the result to Calcutta would have been infinitely more disastrous than it was, and the total destruction of life and property would have been immeasurably greater.

HOWRAH.—The total destruction reported in the How-

	Number of persons killed or drowned.	Number of cattle killed.	Number of masonry houses destroyed.	Number of mud houses destroyed.	Computed value of property lost.
					Rs.
Seebpore ...	2	0	500	2,775	70,000
Howrah ...	3	8	40	1,723	2,22,900
Golabarry ...	5	50	57	5,000	1,00,000
Bally ...	0	12	5	5,262	94,611
Domepore ...	13	250	23	35,114	12,92,897
Juggutbul- lupore ...	5	176	83	7,091	4,83,247
Amptah ...	32	455	28	24,678	5,57,021
Bagnan ...	6	72	2	25,000	6,54,721
Shampore ...	1,487	9,307	11	24,641	3,70,709
Ooloobariah	423	2,432	17	18,871	22,03,725
Total ...	1,978	12,762	316	1,50,158	60,49,831

rah District is given in the accompanying Table. Of this destruction, the figures opposite the two last headings alone represent that caused by the irruption of the storm wave over the country. The destruction in the first eight Police Stations is due mainly to the gale. The computed loss of property is compiled from the statements of the sufferers, and from the especial proneness of natives to

exaggerate misfortunes of this kind, it is not doubted that the figures in regard to property destroyed are unreliable. The Superintendent of Police is of opinion that half the amount stated would be a fairer approximation to the truth. A great portion, however, of the loss and damage caused in this district is of a kind which cannot be accurately estimated. The injury done to fruit-trees and gardens (which, in the vicinity of Howrah, were very numerous and supplied a great portion of the Calcutta market) is very extensive, and it will take years before the loss is completely repaired. The loss of 12,000 head of cattle too is one which will be severely felt for a very long time, though a number of those killed in this district were only passing through on their way to the Calcutta market from other districts, and the loss is thus distributed over a larger area. The damage done to the crops in the southern part of the district is very great, and as yet it is impossible to say how far the flooding of the land with salt-water may have deteriorated the productive powers of the soil in those parts for several years to come. Similarly with the tanks, which have become, for the present, unwholesome and even poisonous, it is difficult to say how long it will take for these to become fit for use. It is known that even in a soil impregnated with salt, they do become wholesome after a time, and it is stated that already the water in those which were inundated with the salt wave has begun to turn sweet.

MIDNAPORE.—In the District of Midnapore, the southern and eastern portion of which was exposed to the full violence of the storm wave, the effects have been most disastrous. The returns from the various Police Stations show the total loss of life there to have been 20,065. There are no means of obtaining accurate returns of the loss of property, but a detailed account of the observations made personally by the Magistrate will be found in the enclosures of letter No. 169, dated 23rd November 1864, from the Commissioner of the Burdwan Division. The following is an extract from his Report, which refers to that portion of the district which lies between the

Russoolpore and the Roopnarain Rivers, and will serve to show what the loss of life was in the places which were most exposed to the destructive influence of the storm wave:—

“The loss of life through the whole track from the Russoolpore to Kookrahattee has been very large, but specially so above Kedgeree. Between Kedgeree and Kookrahattee we saw no one who had not lost large numbers of his relatives. The Police of the Kedgeree Station have knowledge of 1,585 deaths throughout formally reported to them. The people of Goomghur estimate their loss at three-fourths of the population, and Sooruthram Prodhan, the Naib of Dorodoomnan, says that in Mr. Collector Bayley’s time he estimated the population for that Officer at 15,000, and that he numbers the survivors of the inundation at 5,000. As the population of a locality so notoriously prosperous must have much increased since Mr. Bayley’s time, this gives a very serious estimate of the loss; whatever may be thought of it, it is certain that the proportion of lives lost to population has been very great. A case of dacoity from the neighbourhood of Nundee Goan had been committed to the Sessions with thirty-two witnesses. The Police have reported that only two of them are forthcoming, and though I have ordered further enquiry on the point, the circumstance may be noted here even though eventually it may be found that the missing thirty have not all been lost.”

The height of the storm wave varied very much. On the southern coast, actually exposed to the sea, the storm wave nowhere attained any extraordinary height, and did not, to any noticeable extent, breach the sea face of the great Dyke of Hidgelee which extends from the Subornorekha to the western bank of the Russoolpore River. As, however, it struck the western coast forcing itself up the channel of the Hooghly, its height became greater and its violence more destructive. Thus on the southern face of the sea dyke its height is stated to have been only $4\frac{1}{2}$ feet, but as it approached the Russoolpore, its height increased. At Goonput it was 11 feet 6 inches, and at Dowlutpore 30 feet 3 inches.

Above the Russoolpore River it rose still higher, and the embankments here being constructed only to oppose the waters of the river, and consequently much lower and less massive

than those of Hidgelee, which have to resist the violent storms from the Bay, were everywhere over-topped by the waters and formed no effectual resistance.

The crops even in the districts over which the storm wave passed are by no means entirely destroyed. Happily the water drained off from a great portion of the land very quickly and the deposit of salt was not such as to destroy the crops growing there. Where, however, the water did not at once drain off, the crops have been greatly injured, and in the three Pergunnahs of Bograie, Khaleesa Bograie, and Gomesh, the loss of the crops is estimated at one-fourth of the whole. In Goomghur, Dorodoomnan, and Mysadul the loss is far worse, and it is anticipated that scarcely one-fourth of the crop will be saved.

The loss of cattle in this district is computed to be not less than 40,000 head. The number of houses destroyed cannot be estimated; but at Tumlook (which, though exposed to the full severity of the gale, was less severely visited than places down the river by the storm wave,) it is stated that out of 1,400 houses, only twenty-seven remained standing.

The loss of Government salt and the damage done to Government buildings will be noticed in another portion of this Narrative.

24-PERGUNNAHS.—Not less disastrous than in Midnapore were the effects of the storm throughout the southern and western portion of the 24-Pergunnahs. There also the storm wave commencing at Saugor Island, swept over the embankments, destroying huts and villages within a distance of eight miles from the river, and ceased not in its work of destruction till it reached Atcheepore. Saugor Island suffered perhaps more extensively, and the destruction there was more complete than in any other portion of the tract visited by the storm wave. Striking it at once on its western and on its southern face, the wave carried away the embankments, utterly destroyed all the houses, huts, golahs, and buildings, and left scarcely any

living creature on the island. The few human beings that escaped were saved either by climbing up trees, or by floating on the roofs of their houses, which the wave swept on to the mainland and carried inland many miles. At first it was reported that 90 per cent. of the population had perished, but it is found that out of a population of nearly 6,000 souls, there is still a remnant left of 1,488. The cattle destroyed in the flood were 7,000, and the houses 3,565. The storm wave at Saugor Island was fifteen feet above the level of the land, and it appears to have cut a channel straight across the island, dividing it into two halves.

The statistics from the other portions of the 24-Pergunnahs are by no means so accurate as from Saugor Island. The Police Returns give the total loss of life, including that at Saugor Island, as 12,000. The estimate of Mr. Payne, a Missionary who has been assisting in distributing relief over that part of the country, is based on separate information, and his calculation is, that in all villages within one mile of the river, the loss of life was 80 per cent., and in other villages within the area over which the destruction of the storm wave extended, the loss was from 30 to 40 per cent. The loss in cattle is estimated at 80 per cent. The distress and suffering to which the survivors were exposed after the disaster was very great. For several days it was impossible for them to obtain food, the local stores had been swept away, and for three or four days there were no means of sending relief from Calcutta. In some places they were known to be eating a kind of grass, and at a few places where the storm wave had not extended in all its violence, they broke open and plundered the stores of the rice merchants who refused to distribute, or (it is alleged) to sell their grain.

In the tract above referred to, the Sub-Divisional Station of Diamond Harbour is situated, and the loss there was excessive. The wave there was eleven feet high, and the scene which the place presented a few days after the storm was most lamentable. The following is an extract from the

By far the greatest amount of damage caused by the Cyclone was to the Shipping in the river. Destruction of Shipping in the river.

There were, on the morning of the 5th, 195 vessels within the limits of the Port. As long as they had only to contend against the violence of the wind, or up till about 1 o'clock in the day, they rode out without much damage, but when to this was added the wave, the force of which was still not entirely expended, one vessel after another drove from her moorings, and as each ship was swept on, she fouled others in her course, and they carrying others with them, getting massed in hopeless, and inextricable confusion, were driven in heaps on the opposite shore. It appears that 145 vessels were driven on shore, and that ten were sunk in the river. Of these the *Gobindpore*, a magnificent new ship of 1,200 tons, capsized and sunk off the Custom House; the crew were saved by the gallantry of a Sailor named Cleary, who swam off to the wreck with a line, by means of which all got safe to shore. The Ship *Ally* had left the Port the previous day and met the gale a little below Diamond Harbour. She had on board 335 Coolie Emigrants for the Mauritius, and went down with all on board save seven of the crew and twenty-two of the Emigrants.

A detail of the ships lost and injured, and of the progress in recovering them, will be found with the Master Attendant's letters No. 2479, dated 18th October, and No. 2814, dated 8th November respectively. The results are briefly summarised in the Statement below :—

Number of vessels in Port on 5th October ...	195
Number damaged slightly	39
Number damaged severely	97
Number totally lost*	36
	— 172
Number not damaged	23

* Including those which suffered so severely as to become constructively wrecks.

Notwithstanding this wholesale destruction and damage, it will be seen from those Reports that by 19th October, i. e., a fortnight after the gale, 101 vessels that had grounded had been got off. Besides the damage done to the ships actually in Port, there was considerable loss on the river below. The Burmah Mail and Passenger Steamer *Persia* foundered off the Sandheads with the loss of all on board except two of the crew. The Hospital Ship *Bentinck*, which was at anchor near Diamond Harbour, was swept away by the wave and carried on to the top of the Diamond Harbour embankment. The troops on board and the crew were all brought safely up to Calcutta in the Steamer *Defiance*.

Of the Tug Steamers plying on the river six* were lost.

* *Phoenix*,
Banshee,
Linnet,
Fire Queen,
Dwarkanath and *Satellite*.

The Peninsular and Oriental Company lost the old *Hindoostan* which had been converted into a lodging Hulk, and which after breaking from her moorings turned over and went down off Garden Reach. Their Mail Steamer *Bengal* was carried across and stranded on the opposite side of the river, where she still is, though it is hoped that she will be got off without serious damage.†

† The *Bengal* was got off on 30th December after great difficulty and at a large expense.

The Master Attendant's letter No. 2504 of 17th October contains a complete and detailed account of the loss which the gale caused to vessels the property of the Government, to the Dock-yard, and to the moorings of the Port. Of the Government vessels, the Steamer *Adjai* and the Hospital Ship *Bentinck* are irretrievably injured and condemned. The *Hope* and the *Krishna* Light Vessels are, it is feared, lost with all hands. Two‡ Reserved Vessels, two§ Buoy Vessels, two|| Pilot Vessels, and the ¶ Surveying Vessel were dismasted and more or less seriously

Injury to Government Vessels, &c.

‡ *Fame*.
Kedgerree.
§ *Giude*.
Grappler.
|| *Kedgerree*,
Foam.
¶ *Salween*.

jured. The Yachts of the Governor General* and of the Lieutenant Governor† of Bengal escaped without very serious injury.

* *Sonamookhey.*

† *Rhotas.*

Of the Harbour Master's Anchor and Leave-up Boats, &c., seven were lost, including the Hulk *Matabangah*, and fifteen were stranded. Of the moorings in port there were 210 sets lost and only sixty saved. The Kidderpore Dock-yard suffered mainly in the destruction of sheds and workshops, the machinery receiving but little damage.

A Report from the Superintending Engineer of the Presidency Circle shows the destruction wrought on the public works and buildings in the Circle by the Cyclone. With the exception of the

Injury to public buildings.
Enclosures of Public Works
Department's letter No. 3443,
dated 12th November.

injuries in the Midnapore District, this Report includes all the serious results which the storm caused to Government buildings, &c., in Bengal. Colonel Short estimates the damages at Rs. 2,00,000 for the outlying districts of the division; and for the public buildings in Fort William, Barrackpore, and Dum-Dum, he estimates the loss at Rs. 3,50,000. This estimate excludes in both cases the amount which will be required for the re-construction of those buildings which have been so damaged as to be beyond repair. The loss in valuable trees mentioned in this Report cannot be estimated. The avenues in Fort William and the Botanical Gardens are destroyed; the Governor General's Park at Barrackpore has lost 50 per cent. of its valuable trees; and portions of the avenue along the road to Barrackpore have suffered to an extent even heavier than this.

The loss both to Government and to Merchants caused by the quantity of salt destroyed in the storm. gale was considerable. The following extract shows the amount actually lost in Calcutta, and its effect on the Salt Trade :—

“Of twenty-six ships on the river, which were discharging salt before the holidays, three have foundered with 16,402 maunds on

“ board, seven have thrown away the whole, and eight portions of their
 “ cargoes, the total amount of salt thus thrown away being 2,02,082
 “ maunds 24 seers and $1\frac{1}{2}$ chittacks, according to their several Mani-
 “ fests.

“ Of seventy-six country boats containing 25,308 maunds of salt
 “ delivered to Beoparies under Rowannahs from the several ships, and
 “ which had not been formally examined and passed at Sootanooty,
 “ sixty-seven boats with 22,169 maunds on board are said to have been
 “ wrecked ; only nine boats and 3,139 maunds of salt have been saved.
 “ Petitions for refund of duty will be submitted in all likelihood with
 “ reference to the losses herein adverted to.

“ Forty-seven boats, containing 19,376 maunds of salt which had
 “ been passed at Sootanooty, but were staying in the Port from stress of
 “ weather or other causes, are said to have sunk also, the total salt saved
 “ from among these vessels being 994 maunds only. Two golahs in
 “ Hautkhollah have been also swept clear of their contents during the
 “ rise in the river, the loss caused hereby being 427 maunds. The total
 “ loss of passed and unpassed salt laying in the river, as well as of
 “ golah salt swept away, aggregates 40,978 maunds.

“ The wholesale and retail prices of salt before the holidays were
 “ Rs. 4-6 and Rs. 5 respectively. The maximum price after the gale
 “ rose to Rs. 5-4 for wholesale and Rs. 5-10 for retail sale. The prices
 “ have now fallen to Rs. 4-2 and Rs. 5 respectively. The supply of salt
 “ for the town has never been short. The rise of price has been owing to
 “ the closing of the Offices, and partly to the large quantity of salt which
 “ has been lost here and elsewhere. A falling off in the sales has been
 “ the natural consequence.”

Beyond this the loss to Government property was little
 in Calcutta itself, but in other places the damage done has
 been very severe. At the Narainpore golahs it is estimated
 that out of 2,00,045 maunds in store on the 4th October,
 some 58,300 maunds, or about a quarter of the entire stock,
 was destroyed. In Hidgelee the golahs have been much
 injured, but a detailed statement of the loss has not yet been
 procured.

In Sulkea the masonry golahs and the salt which they
 contained received little or no injury ; some of the tempo-
 rary Golahs, however, were partially unroofed, and the rain
 getting in necessarily caused considerable damage.

At Ghoosery the Government golahs stood well, but in some places their foundations have been seriously endangered, and expensive repairs will be necessary.

The loss caused by the gale to the various Emigration Agencies is detailed in the Report from the Protector of Emigrants, No. 333, dated 22nd October 1864.

Loss of life and property at the Emigration Depôts.

In the Mauritius depôt all the bungalows, sheds, and hospital accommodation provided for the use of the emigrants were completely destroyed.

The depôt for British Guiana was completely destroyed. The emigrants, 600 in number, had been fortunately moved in time by the Agent to an adjoining house which was vacant. One old woman was drowned, though the Agent, at the imminent peril of his own life, made great exertions to save her.

The sheds in the Trinidad depôt were destroyed, but the masonry house stood firm. The emigrants, 500 in number, were removed in time from the sheds to the Agent's own house.

In the Bourbon depôt a large shed was blown down, and of the sixty people inside, one was found to be killed, and about twenty injured. Later in the day, two sheds and the masonry hospital were blown down. In the ruins of this latter building one man and one woman were buried. The Agents all exerted themselves and made the best available provision for the safety and accommodation of their coolies.

The local Officers took measures at once, so far as lay in their power, to alleviate the distress caused by the gale. As soon as reliable information was obtained by the Magistrate of the 24-Pergunnahs of the state of the southern portion of his district, he lost no time in sending out food for the starving population, and in providing for the burial of the dead and the removal of the carcasses of animals and other substances

Measures of relief.

likely to cause injury to the public health. He at once obtained an advance of Rs. 5,000 from Government, and caused supplies of rice to be hurried down to Diamond Harbour, Futtehpore, Atcheepore, and Dabeepore; and, irrespective of the proceedings of the Relief Committee, 11,864 persons are reported to have been relieved by these means in his district. Steps were at the same time taken for the clearance of tanks and drains, and for the baling out of tanks filled with salt water; and, on these measures being reported to Government, the Lieutenant Governor directed that they should be persevered in until the entire portion of the country visited by the hurricane was cleared and the people were enabled to provide means of subsistence for themselves. Orders were also given for the arrangement of a systematic plan for the regular supply of food and water to the distressed villages, and it was suggested that, if the deficiency of good water should be found likely to be permanent, a scheme should be organized, if possible, for digging good fresh water tanks, with a view to relieve the want of water and to give employment to the people. His Honor also authorized the employment of such extra Police as might be required for the maintenance of order and for the protection of property, and for properly carrying out the measures of relief.

Similar steps were also adopted by the local Officers of Midnapore and Howrah for the relief of the distress in their respective districts, and the Lieutenant Governor further directed that measures should be taken for immediately employing the whole of the population, which might be in want of work and food, in repairing the embankments in the 24-Pergunnahs, Hidgelee, and Midnapore on ordinary wages, but without adhering at the commencement to the strict exaction of work to be done for the day's wages, and he directed that all people asking for work should be employed in this manner, without excepting women and children.

In the Marine Department also active measures were taken from the very day of the storm to save life and property and to mitigate the effects of the disaster. On the evening of the 5th October, as soon as the abatement of the gale rendered communication possible, the *Celerity* and *Koladyne* were held in readiness, and started on the following morning, one to render aid to distressed vessels, and the other in search of the *Sir William Peel* with her Flats, having on board the 12th Native Infantry proceeding to Bootan. On the 7th the people of Moyapore were supplied with money to purchase rice, and the *Celerity* returned to Town having expended all her provisions in the relief of urgent distress on the banks of the river. On the 8th the *Lady Elgin* was despatched to assist in cruising about the Sandheads and the Balasore roads in search of Pilot and Light Vessels, wrecked ships, and vessels in distress. On the 9th the *Celerity* was sent again with provisions and water to the Sandheads and False Point, and having returned on the 14th, was despatched once more on the 18th with provisions and water to make a more extended search for distressed people and vessels. On the 9th two row boats were also sent to Kedgeree with provisions and water. The *Salween*, which was stranded there, had fed a number of people daily from her stores, but by that time her provisions were exhausted. During the following week five Government boats belonging to the Harbour Master's Department were despatched with provisions down the river. The *S. V. Koladyne* was also despatched on the same day with provisions and water to the Sunderbuns, to visit the houses of refuge and to search for people and wrecks; the *Swiftsure* was also despatched to visit all the River Stations and to relieve immediate want wherever it was met with. The Stations visited and relieved in this manner were Atcheepore, Moyapore, Hooghly Point, Diamond Harbour, Chittamara, Mud Point, Kedgeree, and Cowcolly; and the Master Attendant was authorized to incur any expenditure that might

be necessary for continuing these expeditions, for saving life and for rendering assistance to vessels in difficulty. The Lieutenant Governor also directed that the whole of the sea-coast should be examined, and, as far as possible, also all the creeks in the Sunderbuns.

The relief, however, which could be given by the Officers of Government was necessarily inadequate to meet the wants of such a population as that which was suffering from the total loss of their property, and from the impossibility of procuring either food or water. This insufficiency was promptly and effectually met by the organized efforts of the community. A public meeting was held a few days after the disaster and a large subscription guaranteed at the time. This movement, which was originated by Mr. Walter Brett, was most nobly supplemented by the prompt and spontaneous liberality of the Parsee community at Bombay, and the subscriptions to the Fund now amount to nearly three lakhs of Rupees.

On the 14th October the Committee of the Relief Fund took up the River Steamer *Bombay*, which left at once with supplies of rice and fresh water, and after having visited the tract on both sides of the river which had been swept by the storm, left depôts of stores wherever they were most needed, and returned to Calcutta on the 18th. Another Government Steamer, the *Teesta*, was immediately after placed at the disposal of the Committee and sent down on the 23rd October with fresh supplies; and the Lieutenant Governor took this opportunity to appoint Mr. D. J. McNeile to officiate as a Joint Magistrate and Deputy Collector in the 24-Pergunnahs and Midnapore, to proceed in charge of the supplies, and to remain in the distressed districts with a view to direct the operations of relief. The Magistrates of those districts were also directed to co-operate with the Relief Committee and make the Public Establishments available for applying in the most efficient manner the money which had been subscribed by the public. The pro-

ceedings of Mr. McNeile are reported in detail in the Nuddea Commissioner's letter No. 253, dated the 18th ultimo. He started on the *Teesta* on the 23rd October with the stores

Rice ...	...	1,080	Maunds.
Dhall ...	...	227	"
Purched rice ...	...	30	"
Salt ...	...	30	"
Chillies ...	...	15	"
Tobacco ...	...	8	"
Blankets ...	...	750	Pieces.
Cotton cloth ...	...	2,000	Yards.
Cooking pots ...	...	300	In number.
Hookas ...	...	100	"

noted on the margin, and distributed them in Moyapore, Nuldarce, Fulta, Nonpore, Diamond Harbour, Culpce, Rangafullah, Dhaja, Fort Mornington, Pa-

roolparah, and Kookrahatee. A few days after, the Steam Tug *Francis Gordon* was sent down with the provisions

Rice ...	...	2,250	Maunds.
Dhall ...	...	313	"
Salt ...	...	20	"
Blankets ...	...	250	Pieces.
Cotton cloth ...	...	2,000	Yards.
Cooking pots ...	...	150	In number.
Clyomies ...	...	140	"

noted on the margin, and from this supply a boat full of provisions and water-casks was made over by Mr.

McNeile to Mr. Hugh Fraser, who had from the commencement taken an active part in forwarding these measures of relief for Saugor Island; and stores were also deposited at Kedgerree, Balhaghatta, Diamond Point, and Dowlutpore. The *Teesta* left again on the 8th November with fresh stores; but the country on the east side of the river has been gradually reviving, and hauts are being held and the people are resuming their occupations; the distribution of food gratis to able-bodied men has in consequence been here discontinued; but the quantity served out at once to women and children has been doubled, so that they may take away enough for two meals at once. To this rule, however, the Island of Saugor is still an exception, and the people there must yet continue to be fed by charity for some time to come. On the western side of the river also the supplies of food free of cost are being continued, because no work of any kind has there been procurable for those in distress. It is, however, most satisfactory to find that the want of fresh water, which was at first supposed likely to continue for a long time, and to be the cause of great distress, has ceased

to a great extent to be felt, the tanks even, where flooded with salt water, having recovered their freshness by natural process, and the decaying vegetation and other impurities, which at first made their water almost poisonous, having to some extent been removed, though doubtless the impure state of the water has had a most injurious effect on the health of the people.

A Statement of the manner in which the Relief Fund

	Rs.	A.	P.
Stores	1,16,146	9	6
Advances for distribution among Natives by Missionaries ...	36,700	4	0
Advances for distribution among Natives by Magistrate of Alipore ...	7,901	5	8
Advances for distribution among Natives by District Charitable Society ...	1,000	0	0
Advances for distribution among Natives by Mr. McNeile ...	1,000	0	0
Advances for distribution among Natives by Mr. Hugh Fraser ...	9,000	0	0
Advances for distribution among Natives by Baboo Chunder Sikur Mookerjee, of Conaghur ...	1,000	0	0
Advances for distribution among Natives by Officers at Tumlook ..	200	0	0
Advances for distribution among Natives by Officers at Midnapore	4,000	0	0
Advances for distribution among Natives by Officers at Kishnaghur	4,347	0	0
Advances for distribution among Natives by Officers at Serampore	1,000	0	0
Advances for distribution among Natives by Officers at Contai ...	1,000	0	0
	<hr/>	<hr/>	<hr/>
	1,83,295	3	2
Donations chiefly to widows and orphans of European Officers of Steamers and others in absolute need ...	5,340	0	0
Sailors' Home Relief Fund ...	25,000	0	0
	<hr/>	<hr/>	<hr/>
	2,13,635	3	2

DETAIL OF STORES.

		<i>Cost in Calcutta.</i>		
	<i>Maunds.</i>	Rs.	A.	P.
Rice ...	15,700	39,296	5	6
Dhall ...	2,500	6,963	12	6
Oil ...	492	6,303	0	6
Salt ...	234	1,095	3	6
		<hr/>	<hr/>	<hr/>
		53,658	6	0
Cloth ...	1,28,000 Yards	32,400	0	0
Blankets ...	1,750 Pieces	8,190	3	6
Coir Yarn }	988 Maunds	7,225	9	6
Jute Twine }				
		<hr/>	<hr/>	<hr/>
Carried over ...		96,474	3	0

has been expended up to the present time is given in the margin.

The crews of the vessels destroyed by the Cyclone and of those which became unseaworthy, having been thrown on the charity of the Town, a Committee of the Sailors' Home was convened at the request of the Commissioner of Police, in order to devise means for affording relief to these Seamen. From the first they were housed and well-cared for in the Sailors' Home, and fifty of them were taken on as additional Constables after the storm, and did good service in collecting and protecting wrecked property on the Strand. The great demand for

			Rs.	A.	P.
Brought forward ...			96,474	3	0
Khodallies ...	6,200	In number...	3,640	2	3
Kuttarees ...	6,400	" ...	3,655	8	6
			1,03,769	13	9
Steamer hire ...			6,000	0	0
Boat, Cart, and Coolie hire ...			6,376	11	9
Total cost of Stores, Rs....			1,16,146	9	6

labor on board the damaged ships enabled many others also to find employment on their own terms; but when this demand began to lessen, the Sailors' Home

Committee recommended that the provisions of the Merchant Seamen's Act, whereby distressed and shipwrecked Seamen may be relieved and sent home at the public expense, should be put into operation. The Commissioner of Police was thereupon directed to place himself in communication with the Master Attendant, with a view of despatching home such distressed Seamen as came within the provisions of Section 211 of the Act, and also to report, for the Lieutenant Governor's information, further particulars regarding certain others whom he had suggested to send home at the joint expense of the Sailors' Home and of Government, a measure which did not however appear to be necessary, seeing that if the men are really in distress, they can be provided for under the Merchant Shipping Act. Occupation was also found in Her Majesty's service for a number of these men (thirty) under the Rear Admiral at Bombay, and the Lieutenant Governor authorized the payment of Rs. 50 for the passage of each of these men, to be recovered from the Board of Trade.

To guard against a return of the disasters which occurred to the Shipping during the storm, the questions submitted for the consideration of Government have been (1) the construction of Wet Docks for the accommodation of the Shipping; (2) the completion of the requirements at Port Canning with a view to direct a portion of the Shipping to Muttah; (3) the best mode of re-laying the moorings so as to render them more secure than they were before the gale. The two first of these proposals are under the consideration of the Government of India. As, however, the third proposal was of immediate importance, a Committee was appointed by

the Lieutenant Governor, consisting of the gentlemen named on the margin, to consider and report on the subjects; and in compliance with their recommendation, an urgent Indent has been sent home already for screw moorings for the Port in the place of the ordinary moorings hitherto in use. At the recommendation of the Master Attendant, the Lieutenant Governor has also authorized a rule being added to the Port Rules, that from the 30th September until after the full moon of November, no ship in the Port shall be allowed to have top-gallant yards or top-gallant masts aloft, and that they shall in addition strike top-sail yard and top-masts when required to do so.

FORT WILLIAM, <i>The 31st December 1864.</i>	}	A. EDEN, <i>Secy. to the Govt. of Bengal.</i>
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From LIEUT. COLONEL J. C. HAUGHTON, Commr. of Cooch Behar, to Secy. to Govt. of Bengal,—(No. 382, dated 15th October 1864.)

Deeming my duty to do so, I have opened a public subscription at this place for the relief of sufferers from the appalling calamity which has befallen Bengal. I could not, however, appeal to persons of influence to set an example, and at the same time withhold the Rajah's name from the list of contributors. I have therefore entered him as a subscriber of Rs. 1,000, and trust my having done so may meet with the approval of the Hon'ble the Lieutenant Governor.

From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to Commr. of Cooch Behar,—(No. 4774, dated 4th November 1864.)

In reply to your letter No. 382, dated the 15th ultimo, reporting that in the subscription list opened by you for the relief of the sufferers from the effects of the late Cyclone, you have entered the name of the Rajah for Rs. 1,000, I am directed to state that the measure is approved by the Lieutenant Governor.

From MR. A. M. DOWLEANS, to Secy. to Govt. of Bengal,—(dated 17th October 1864.)

I have the honor to report that through the falling in of the roof of the Accountant's room in the Office of the Justices of the Peace during the late Cyclone, two large boxes, containing records of the Exhibitions of 1851, 1855, and 1862, were completely broken to pieces, and the papers either blown away, or so much damaged by the rain as to be perfectly useless.

2. I regret to add that a small box containing a portion of the papers relating to the late Agricultural Exhibition, has shared the same fate.

From J. GEOGHEGAN, Esq., Under Secy. to Govt. of Bengal, to D. J. McNEILE, Esq.,—(No. 5006, dated 21st October 1864.)

I am directed to inform you that the Lieutenant Governor has been pleased to appoint you to officiate as a Joint Magistrate and Deputy Collector in the 24-Pergunnahs and Midnapore, with a view to direct the operations for the relief of the sufferers from the late Cyclone.

2. You will be so good as to communicate with the Commissioner of the Nuddea Division in respect to the operations in the 24-Pergunnahs, and with the Commissioner of Burdwan in regard to the measures which may be adopted in Midnapore. And as regards both the districts, you will place yourself in communication with the Honorary Secretary to the General Cyclone Relief Fund Committee.

From the HON'BLE A. EDEN, Secy. to Govt. of Bengal, to the Offg. Commr. of Police, Calcutta, the Magistrate of Howrah, and the Magistrate of the 24-Pergunnahs,—(Nos. 4130—2T, dated Darjeeling, 11th October 1864.)

I am directed to request that you will submit, for the information of the Lieutenant Governor, a full report on the general effects of the gale of the 5th instant in your jurisdiction, of the loss of life and property caused by it, and on the measures which have or can be taken to relieve those who have suffered from the calamity.

From E. C. CRASTER, Esq., Magistrate of Howrah, to Secy. to Govt. of Bengal,—(No. 482, dated 21st October 1864.)

I have the honor to acknowledge the receipt of your letter No. 4131, dated 11th instant, and in reply to state that a full report on the general effects of the gale of the 5th instant in this district, and the loss of life and property caused by it, shall be submitted as soon as the details have been satisfactorily ascertained.

2. With regard to the measures which have been or can be taken to relieve those who have suffered from the calamity, I have the honor to report that as soon as the Relief Committee was formed in Calcutta, I addressed a letter to Mr. Brett, the originator of the relief movement, bringing the case of the inhabitants of the Thannahs of Oolobarah and Shampore in this district to the notice of the Committee, and asking for a share in the relief about to be given to sufferers by the storm for them. This letter was read at the first meeting of the Committee, and I was informed by a letter from the Honorary Secretary that steps would be at once taken to afford the relief asked for; since then I have learnt that provisions, &c., have been landed and placed under the charge of persons employed by the Relief Committee for distribution to those requiring assistance of that nature.

3. The District Superintendent of Police, Mr. King, went down to that part of the district last week, and he informs me that in his opinion the great want will be that of good water, every tank within a certain distance of the river bank having been filled with salt water, and those further inland spoiled by the number of trees blown down into them during the storm, most of which remained where they fell.

4. There can be no doubt that the pressing wants of those parts of the district which have suffered most, i. e., the south part of the Oolobarah and the whole or nearly so of the Shampore Thannahs, are food and good water; the first has been supplied to a limited extent by the Relief Committee, as I have stated; the measures which they have taken appear to be well calculated to afford the relief required, and I would suggest that the same course be continued on such an extended scale as the Government may be able to adopt. In what manner the second can be best provided is a question which I am not prepared to answer; it has, however, doubtless been well considered by the very competent persons by whom the operations of the Relief Committee have been hitherto conducted, and I would beg to refer the Government to them for their opinion on the subject.

5. As regards the remaining parts of the district which he visited, Mr. King is of opinion that little or no distress will be felt, at least on the score of want of the necessities of life; there seemed to him also to be no lack of employment; at and about Oloobariah laborers were getting five annas a day, and the Irrigation Company's Agent informed him that he was prepared to employ 600 men if they were to be had. As a proof that there at least was no scarcity of food, I may mention that the Officer in charge of the Post Office at that place complained to Mr. King that the Post Master General had sent him down a quantity of rice, with an intimation that the cost would be deducted out of his pay, at the rate of Rs. 3-12 per maund, whereas rice was then selling in the Bazar there at Rs. 2-8 only.

6. I regret that I have been unable to visit that part of the district myself in consequence of illness brought on by exposure on the day of the storm.

From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to D. J. McNEILE, Esq., c. s., on Special Duty in the 24-Pergunnahs and Midnapore,—(No. 4527, dated 27th October 1864.)

I am directed to forward to you herewith a copy of a letter from the Magistrate of Howrah, No. 482, dated the 21st instant, on the subject of the general effects of the Cyclone of the 5th idem in his district, and to request that every practicable step may be taken for the present supply of good water in all places where the want of it is most felt.

2. I am to suggest that if the deficiency of good water be found likely to be permanent, it might be possible to organize through the Department of Public Works a scheme for digging good fresh water tanks, which would both relieve the want of water and give employment to the starving population.

From C. H. CAMPBELL, Esq., Offg. Commr. of the Rajshahye Division, to Secy. to Govt. of Bengal,—(No. 177, dated 22nd October 1864.)

I have the honor to annex, for the perusal of the Lieutenant Governor, copy of letters as per margin. I have yet had no other information regarding the late Cyclone from the District Officers, but I have called on them to submit full reports, on receipt of which I will communicate further.

From the Magistrate of Bograh, No. 136, dated 6th October 1864.

Extract from a letter from the Assistant Superintendent of Police, Bograh, to the Deputy Inspector General of Police, No. P, dated 6th October 1864.

2. At Berhampore we had a severe gale, but nothing more ; some boats were sunk and a good deal of damage was done to kutchha buildings ; but I have yet heard of no loss of life.

3. I hear the storm was severe at Pubna, but owing to the late holiday, I have yet no particulars.

4. No particular damage was done, I am informed, in Rajshahye, and I have no reason to believe that Rungpore and Dinagapore suffered much.

From A. B. FALCON, Esq., Offg. Magistrate of Bograh, to Commr. of the Rajshahye Division,—(No. 136, dated 6th October 1864.)

I have the honor to inform you that a gale from the north-east occurred last night, which has done much mischief.

The Jail is nearly in ruins. The Police Lines are down ; several boats are stranded ; many trees have been blown down, and many houses in the town, and one or two lives have been lost.

I have heard nothing as yet from the interior of the district. If I hear anything of importance, you shall be informed.

The river is higher than it has been many years, but the wind has now lulled. I have done what I thought absolutely necessary in the Jail in conjunction with the Medical Officer and the Police Officer in charge, and I am in communication with the Inspector General of Jails.

I append (with a note) an extract of a Report from the Police Officer in charge.

Extract from a letter from Asst. Supdt., Bograh, to Depy. Insp. Genl. of Police,—(No. D, dated 6th October 1864.)

“ Yesterday afternoon heavy squalls of wind accompanied by rain swept across the country and continued to increase in intensity during the whole afternoon. The wind was first from the east and gradually chopped round to the west by sun-set, when began the full fury of the storm. The strength of the wind, coupled with great fall of rain, had the effect of laying nearly the whole of the town in a mass of ruins, &c., &c. The Jail of the place, which also is (or rather

Note that the storm when on its climax, viz., about 2 A. M., was decidedly from east to north-east, as I can testify by the effect on my house, and also by the direction in which all the trees have fallen.

(Sd.) A. B. FALCON,
Offg. Magistrate.

The 6th Oct. 1864.

was) a mud collection of buildings, one-half has been rendered quite untenable. The outer walls on the east are level with the ground, and the Guards now obliged to be stationed inside the buildings, while the women prisoners have been removed to one of the rooms in the Cutcherry range of buildings; this, as you may imagine, has entailed the necessity of a larger Guard. The Jail Guard has been raised from twenty-eight Constables and two Head Constables to forty Constables and three Head Constables, while the strength of the Treasury Guard has been raised from twelve to sixteen Constables, so that they may be able to give a Guard for the safe custody of the women prisoners. Two deaths, one by the falling of a house on a boy, and the other of the drowning of a male child, have been reported, and I anticipate that many other fatal accidents must have occurred," &c., &c.

Demi-official letter from M. B. ROCHFORD, Esq., Asst. Supdt., to Offg. Magistrate of Bograh.

I send an extract of parts of my letter; what think you will it do? I don't see the necessity of sending mine to the Commissioner, for you could far better state the circumstances than I.

From H. L. DAMPIER, Esq., Commr. of the Nuddea Division, to Secy. to Govt. of Bengal,—(No. 227, dated 21st October 1864.)

I have the honor to submit copy of the Magistrate of Nuddea's first report on the Cyclone. It will be observed that at Kishnaghur the storm was first from the east and north-east, and then from the north-west.

2. It is satisfactory to learn that the rice crop has not suffered.

3. The Sub-Divisional house at Chooadangah having been unroofed, as well as the Small Cause Court Cutcherry, I have authorized the Sub-Divisional Officer to remove his Office for the present to Kooshtea, which is little more than one hour's journey by Rail from Chooadangah.

4. The Magistrate has been requested to press on the Executive Engineer the urgent necessity of repairing the Sub-Divisional Offices at once.

From E. GREY, Esq., Magistrate, to Commr. of the Nuddea Division,—(No. 478, dated 18th October 1864.)

I have the honor to furnish the following brief account of the Cyclone which passed over this district on the 5th instant.

During the whole of the 5th instant, the weather was stormy. Strong gusts of wind blew from the north-east accompanied by very heavy rain. Towards the evening the violence of the wind increased, and from about 5 p. m. to 7-30. p. m. it blew with terrific force from the east and north-east. A calm of about half an hour's duration then succeeded, after which the storm blew with nearly the same violence as before, but from a north-westerly direction. At about 9-30 p. m. it ceased altogether. Heavy rain fell while the wind blew from the east, but comparatively little while it came from the north-west.

I have received demi-official letters from all the Sub-Divisions. From these it appears that the storm has been felt with nearly equal violence all over the district.

At the Sudder Station a large number of native dwellings have been destroyed, and a very considerable number of trees blown down. The Government buildings have also been injured. At Chooadangah, Ranaghat, and Bongong, the Sub-Divisional residences and out-houses have been unroofed and otherwise injured. At Meherpore and Kooshtea the damage done has also been considerable.

The Railway suffered considerably. The telegraph wires were destroyed, signal-posts blown down, and stations partly unroofed. Two Trains are reported to have been blown over while travelling, and for a day traffic was at a stand-still. I am happy to state that, so far as I have heard, no lives were lost on the Railway.

On the rivers there must, I fear, have been immense loss of property, and probably of life also, but it is impossible to make even an approximate calculation on this point.

Seven persons were killed by falling of houses in this town and the same number at Meherpore. As soon as I receive the reports called for from the Police, I shall be able to state more precisely what loss of life and property has occurred.

The sugar-cane and pepper crops are said to be very much injured, but the rice crop has not, I believe, suffered in any way.

Not having a barometer, I am unable to give any information as to variation in atmospheric pressure on the day of the storm.

From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to Commr. of the Nuddea Division,—(No. 4633, dated 31st October 1864.)

I am directed by the Lieutenant Governor to acknowledge the receipt of your letter No. 227, dated the 21st instant, submitting from the Magistrate of Nuddea a brief account of the gale of the 5th instant in the Kishnaghur District, and in reply I am to state that the proceedings reported in your 3rd and 4th paragraphs are approved.

From LIEUT. COLONEL J. P. BEADLE, R. E., Chief Engr., to Secy. to Govt. of Bengal,—(No. 1423, dated 25th October 1864.)

I have the honor to submit the accompanying note of the progress of the late hurricane, including some extracts and remarks on the subject generally, which may perhaps serve as a preliminary to the detailed statements of its action on the public works, and of the damages done, and probable loss sustained, which have to be submitted.

2. A complete scientific investigation of the hurricane is under preparation in another quarter, so I have neither delayed this document, nor given sufficient time to its preparation to make it in any way such a paper as would supersede the necessity for a complete analysis of the Cyclone.

Note of the progress of the late Hurricane.

The hurricane we have recently experienced confirms remarkably Maury's concise description of the theory of the Cyclone as a rotary storm, which is nearly as follows:—

Revolving (in the Northern Hemisphere) against the hands of a watch; the greatest violence near the centre or vortex of the storm; the vortex itself a calm, which travels sometimes one or two miles an hour, and sometimes forty or fifty; the barometer low in the centre, rising at the outside edge, or periphery; the diameter sometimes a thousand miles, and sometimes not more than a few leagues; the origin somewhere between the parallels of 10° and 20° north and south of the Equator, travelling to the westward inclining towards the nearest pole until they reach the parallel of 25° or 30°, when they turn towards the east or "recurvate," but continue to increase their distance from the Equator.

Maury does not wholly accept this theory; he thinks that the wind in a true Cyclone blows in spirals towards the vortex, which is the theory held by Thom, who was the Piddington of the Mauritius.

There are three theories—

I.—The wind blows round and round the vortex, or place of low barometer, which is as a disc to the rotary storm.

II.—The wind blows directly towards the vortex, which is like an oblong trough between two atmospherical waves.

III.—The wind blows in spirals towards the vortex, gyrating only within a certain distance of the vortex, the gyrating column being of comparatively small diameter.

Maury inclines to the belief that Cyclones are whirlwinds within a storm; that on the sea, as on land, there may be a storm within a storm, that is, a Cyclone travelling with the storm and revolving within it. He lays down also that we are not entitled to call the movement of the wind a Cyclone unless the wind shifts more than 180 degrees.

Piddington, writing on the hurricane in the Bay of Bengal on the 3rd, 4th, and 5th of June 1839, says:—"Colonel Reid and Mr. Redfield give from 10 to 30 miles an hour for the rates at which the centres of their different vortices have probably travelled onwards." "It appears that from the 3rd to the 4th the hurricane travelled onwards only about 100 miles, or say 4·16 miles an hour, and from the 4th to the 5th about 7 to 8 miles an hour."

"The slow rate at which our vortices travel onwards is very remarkable."

Mr. Piddington, in the same pamphlet, says that we do not yet know what is the usual track of our Indian hurricanes. Judging from this single tempest, he thinks that in the absence of better knowledge, it may be assumed that the hurricanes in the Bay of Bengal travel from the eastward to the westward; and he quotes from a review of Colonel Reid's work on storms by the Hon'ble Company's Astronomer at Madras, "*that the East India gales appear invariably to travel from the Coast of Arracan towards the west; the curves conforming gradually to the shape of the shore.*" The recent Cyclone had this course, but inclined very soon to the northward.

At False Point, on the Cuttack Coast, the wind commenced at
 Superintendent, Lighthouse, 9 A. M. of the 4th October from the north-
 False Point. east, getting round at 4 P. M. to north north-
 east with heavy showers of rain; at midnight it veered to north-west,
 blowing twice as hard. At 1 A. M. it blew from the west, and at 3 A. M.
 of the 5th it began to moderate; *the tide rose 5 feet higher than the
 highest spring tide.*

The barometer at no period indicated a gale, as it never fell lower than 29° 49'; some trees were blown down, considerable destruction was caused to the embankments, and one sluice was washed away. The gale was not felt at the Station of Cuttack, nor was it experienced in the slightest degree at the Chilka Lake. This gale has some of the characteristics of a Cyclone, and, if the statement be correct, deserves to be further considered as to the connection it may have had with the hurricane.

BALASORE.—Balasore was visited by a severe gale between 11 P. M. of the 4th and 5 A. M. of the 5th.

The barometer fell half an inch during the gale and rose $\frac{4}{10}$ after it abated.	}	From 29·975 at 11 P. M. of the 4th. To 29·45 at 1½ A. M. of the 5th.
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There was one continued roar and rush of wind and rain with occasional tremendous gusts.

The wind came from north and west veering towards west.

The rain ceased at 9 A. M., but the wind did not fairly abate till about 4 P. M. of the 5th.

The thermometer during the gale stood from 76° to 72°. But little damage has been done to the buildings in the Station. Trees suffered most, many along the Cuttack and the Station roads were blown down and the roots turned up; almost every clump of bamboo in the place has been torn up by the roots.

HEDGELEE.—At Contai the barometer fell from 29·75 on the evening of the 4th to 28·025 during the lull between

Mr. O'Flaherty:

10 and 11 A. M. of the 5th, showing that the

vortex of the hurricane passed over Contai. The Executive Engineer's note is as follows:—

“The storm commenced about 4 o'clock A. M. of the 5th, and lasted till about $\frac{1}{4}$ to 10 o'clock; it was at its highest about $\frac{1}{4}$ to 9. From about 8 o'clock to the lull the barometer fell from 28·95 to 28·025. On the evening of the 4th the barometer was at 29·75. After a complete lull of nearly an hour, the gale came back, the barometer remaining steadily at 28·025 in the interim. At 12 o'clock the barometer went up to 28·125; for nearly an hour the gale was more like a *whirlwind* than any thing else. At $\frac{1}{4}$ past 12 the barometer was at 28·53. At $\frac{1}{4}$ to 1, 29·025. At $\frac{1}{4}$ past 1, 29·10. At 2 o'clock, 29·40, and at this time the gale had subsided.”

In this report we have proof of the position of the vortex, and also, I think, of its length; the outside storm of the hurricane did not extend far inland; and Kedgeree, although later, was circumstanced very much as Contai was, with this difference, that Contai is about 5 miles inland and 4 miles within the embankments, which are 20 feet high; but Kedgeree is outside the main embankment, and on the shore of the Hooghly. The reports from Hidgellee are not complete, but the height of the Cyclone wave which swept Saugor Island has been carefully measured, and is reported to have been 15 feet above the land level.

Of the Cyclone of May 1833 Mr. Bond, the Master Attendant of Balasore, writes (July 31st, 1839) :—

“Gales at Kedgeree, though blowing dead to windward of us distant 75 miles, do not always reach this coast, as in the May hurricane of 1833, when the *Duke of York* was blown from her moorings at Saugor across to Hidgellee and became a wreck, yet the gale did not reach here, although the bank to the eastward in the heavens so plainly indicated a gale that every person here barred up their doors and nailed them. We only had a good top-gallant breeze.”

In the present instance we have the *Bentinck* landed on the shore at Diamond Harbour.

The *Alexandra* Steam Tug was anchored off Saugor, but got loose, and with steam up passed through the vortex, having a calm for three quarters of an hour, much about the same period that the lull lasted at Contai, but *one hour later*, from which it would seem that at 10 A. M. of the 5th she was between Contai and Kedgeree, probably in the Cowcolly roads. When the hurricane resumed from the north-west, she kept her head north and east and steamed her best, but drifted south and west till she anchored off Piplee Sands below Hidgellee.

The Ship *Clarence*, which was about 2 degrees south and east of Juggernaut at 10 A. M. on the 4th October, had the wind blowing strong from the north-east, and was on the north-west verge of the Cyclone, travelling north, so she sailed on its south-eastern edge perfectly safe. The distance between the *Clarence* at 10 A. M. of the 4th and the *Alexandra* at 10 A. M. of the 5th is about 260 miles, so the hurricane must have travelled about 10 miles an hour up to Hidgellee.

This evidence, together with that obtained from the fact of the *Burmah* not feeling the hurricane, whilst the *Proserpine* Steamer, which sailed a few hours later and followed in the same tract, but slower, suffered severely on the north-east side of it, would seem to show that the Cyclone had its origin at some point at sea about 100 miles from the Arracan

It seems that *stronger fastenings on land* as well as *stronger hatches at sea* are required. Piddington always pointed out the danger of weak hatches. May not the following extract explain the way in which the unfortunate *Persia*, which seems to have been "taken aback," went down?

"A vessel may, in one of the terrific gusts, which accompany these sudden shifts of wind, be thrown on her broadside in the trough of the sea *with her deck towards the sea!* In such a case she is in the position of a vessel on a reef which has fallen over to seawards, and there is every chance that her hatches would be beaten in, which would swamp her."

The iron Lighthouse on Saugor Island, which has no foundations below the land level, stood the shock of the Cyclone perfectly well. Cowcolly Lighthouse also, which is a brick masonry column below Kedgere, has not been injured; the wave over the land has been measured and was $13\frac{1}{2}$ feet. The masonry buildings both at Contai and at Kedgere have stood well.

The Sea Dyke of Hidgellee has been breached in six places, all of which are in the portion fronting Contai, and but nothing has been said about the masonry sluices, which is a good sign; the lands of Hidgellee have not suffered to the extent to which they suffered in 1832-33, where the embankments have stood, but were ridden over by the wave, the crest for some lengths has been torn out, leaving a gaping hollow; but the seat of the embankment, which is the mass of the earth-work, remains; it is only in very few places that the whole section has been washed away.

On the Hooghly face of the 24-Pergunnahs and on the Roopnarain River in Mundleghat, the greatest damage appears to have been sustained. The wide basin of the Roopnarain drew off a large proportion of the wave in the Hooghly to the relief of the upper sections and of Calcutta; the embankments were overtopped from 3 to 4 feet and destroyed in many lengths; the sluices in the embankment on the Hooghly River-face, fronting the James and Mary, have been destroyed.

The embankments of Mundleghat on the Damoodur have not suffered much.

The chief expense of repairs to embankments will have to be incurred on the 24-Pergunnah side of the Hooghly, which was inundated by the raised waters passing over the embankments, which, from Saugor

Island to Diamond Harbour, were about 8 feet high. Above Hooghly Point the wave in the river rapidly diminished, but it reached to $23\frac{1}{2}$ feet over the sill of the Kidderpore Dock at 3-45 P. M., which is about 5 feet above high tide level of the 5th October, as it should ordinarily have been at 4-21 P. M.

J. P. BEADLE, *Lieut. Col., R. E.,*

The 25th October 1864.

Chief Engineer, Bengal.

From J. P. WALKER, Esq., M. D., Secy. to Sanitary Commission for Bengal, to Secy. to Govt. of Bengal,—(No. 681A, dated 12th October 1864.)

I am desired by the President to subjoin copy of a letter of this date received from Dr. Walter Bourne, for the information and orders of the Hon'ble the Lieutenant Governor.

From W. BOURNE, Esq., M. D., to Secy. to Sanitary Commission,—
(dated 12th October 1864.)

I beg to send you the following suggestions on a subject of the gravest importance as regards the health of this city, and which demands immediate attention. The freshes which are daily increasing in force and which will culminate on the 15th and 16th in heavy bores, are certain to carry with them hundreds, if not thousands, of dead bodies of men and animals, which if permitted to come amongst the Shipping, is sure to be attended with a fatal pestilence.

If booms were laid across a narrow portion of the river some five or six miles below Garden Reach, their progress could be arrested. Boats stationed with men at this point could land the bodies, and bury them in deep pits prepared for the occasion. I have gleaned this information from reliable sources, and place it at your disposal.

From S. C. BAILEY, Esq., Junior Secy. to Govt. of Bengal, to Secy. to Sanitary Commission for Bengal,—(No. 4505, dated 26th October 1864.)

I am directed to acknowledge the receipt of your letter No. 681 A, dated the 12th instant, forwarding a copy of a letter from Dr. Walter Bourne, proposing certain measures for preventing dead bodies of men and animals from floating up amongst the Shipping during the last spring tides.

2. In reply I am desired to observe that, as it appeared from investigations made by reliable Officers to be almost certain that owing to the strong and continued flood tide which carried everything seaward for three days after the hurricane, no corpses could remain to be floated up by the succeeding spring tides, it was not thought necessary to provide against the danger anticipated by Dr. Bourne, and this view, I am to add, subsequently proved to be well founded, for in fact no corpses have been floated up by the spring tides.

From the HON'BLE A. EDEN, Secy. to Govt. of Bengal, to Chief Engr., Bengal,—(No. 4129 T, dated Darjeeling, 11th October 1864.)

I am directed by the Lieutenant Governor to request that you will be good enough to furnish a Report on the effects of the gale of the 5th instant on the public buildings in Fort William and in Calcutta, and its vicinity.

From the HON'BLE A. EDEN, Secy. to Govt. of Bengal, to Supdt. of Botanical Gardens, Calcutta,—(No. 4135 T, dated Darjeeling, 11th October 1864.)

I am directed by the Lieutenant Governor to request that you will be good enough to report on the state of the Botanical Gardens after the gale of the 5th instant.

From the HON'BLE A. EDEN, Secy. to Govt. of Bengal, to Commrs. of the Nuddea and Burdwan Divisions,—(Nos. 4133-34 T, dated Darjeeling, 11th October 1864.)

I am directed by the Lieutenant Governor to request that you will report on the effects of the gale of the 5th instant on the country beyond the limits of Calcutta and the Suburbs, including Howrah.

From the HON'BLE A. EDEN, Secy. to Govt. of Bengal, to Magistrate of 24-Pergunnahs,—(No. 4184 T, dated Darjeeling, 14th October 1864.)

With reference to your unofficial letter of the 11th instant, I am desired by the Lieutenant Governor to say that he entirely approves of all that you have done with the view of affording relief to sufferers from

the late gale in the southern Pergunnahs. You should endeavor to induce the Zemindars to place funds at your disposal for the purpose, and in the mean time to enable you to relieve immediate wants. You are authorized to draw upon the Collector of the 24-Pergunnahs for an advance of Rs. 5,000.

2. You should endeavor to send down parties of Domés to bury the dead bodies and dispose of the carcasses of cattle killed in the storm. This should be done under the inspection of the European Constable.

3. The Police should be employed generally in assisting to save life and property. If you require any extra Officer, whether Assistant Superintendent or Inspector, you should apply for them to the Deputy Inspector General. Care must be taken, however, that these Officers are not drafted from districts in which they are equally wanted.

From W. LEF. ROBINSON, Esq., Magistrate of 24-Pergunnahs, to Secy. to Govt. of Bengal,—(dated 12th October 1864.)

The accompanying is Baboo Hem Chunder's report of Diamond Harbour. I have not got Stack's yet, it shall be sent as soon as I get it. My great difficulty is to procure carriage; no boats to be had, and carts very difficult to get. Nothing fresh to-day in the shape of disaster.

From BABOO HEM CHUNDER KERR, Depy. Magistrate and Depy. Collector of Diamond Harbour, to Offg. Magistrate of 24-Pergunnahs,—(dated 9th October 1864.)

You have already been informed of the disaster which has befallen the men living in the Sub-Division of Diamond Harbour under my charge. I have just returned from the Sub-Division, and beg leave to report as follows :—

How the storm came on and helped the spring tide in destroying innumerable lives and all the property the poor men had, is too well known to be made mention of in this place. Suffice it to say that on the memorable day, the high, broad, and strong bund between the Sub-Divisional compound and the river gave way, and the water past through the upper story of my residence, rising about from 12 to 15 feet high from the level of the ground, and washing away the walls and books, papers, &c., I had there. Of my own loss, however, I need

make no mention, but in a very short time the premises became filled with water, running in strong current, and carried away every furniture, every paper, and the treasure and stamps chests. The Office platform has been washed away and its railings destroyed. The Court tables, chairs, almirah, chests, all gone without any trace being left of their previous existence. I am very sorry to mention that all the records, both English and Vernacular, in both Revenue and Fouzdary Departments, have been swept away clean. The Cutcherry building is standing, but without doors, floor, and evidently shaken to the foundation. The fine house used for the Sub-Divisional Officer's residence, cost Government, I believe, no less than Rs. 62,000, has been partly destroyed, and the rooms which are still standing have been greatly damaged, and if an unprofessional man be allowed to offer an opinion, I submit that the building is quite unsafe as a dwelling-house. The Government clock and the fine telescope are missing. What little was left by the Cyclone has, I am afraid, been carried away by the men who are dying of hunger and thirst, and who, placed as they are under peculiar circumstances, will do anything to gain a livelihood. The surrounding wall of the newly built lock-up has been levelled to the ground, and the lock-up itself shattered and deprived of its doors and windows. The old pukka hall given over to the Police has been entirely destroyed. The cook-house stands, but in a damaged state. The servants' house and the Doctor's room, with his medicine chest therein, have been completely destroyed. His private house, which was standing in the Sub-Divisional compound and built by Government, has been carried away, and the poor Doctor, his family, children, and servants, have, it is greatly feared, perished. One Police Constable is missing, as also two number peons, and it is almost certain that they are no more. The absence of the Jail Mohurir cannot be accounted for, and he has not been seen by any one after the Cyclone. The head clerk's servants have met their death under the walls of the Sub-Divisional out-offices, where their master was then living. The garden has been destroyed, and there are dead bodies of human beings and cattle in the compound, which must be forthwith removed. Such, Sir, is the state of the Sub-Divisional building and compound, and I have asked the Overseer in charge to look to them. The Treasury has been fortunately saved by the Police, and the money and stamps are for the present deposited with Mr. Stack, the District Superintendent of Police. These were in two iron chests, and found, after the Cyclone was over, and the storm wave had disappeared, out of the compound, but the contents thereof were found to be safe, though the Stamp Papers have, of course, been seriously damaged. The iron

chests had to be broken open, so that they will have to be brought here in order to undergo the needful repairs. Those almirahs which have escaped had only a cloth on each of them, and their escape was, to say the least of it, miraculous. One Mohurir, Colly Halidar, has not been seen, and if he does not make his appearance in a day or two, we must conclude that he too had met his untimely fate in the gale. There were a very large number of houses at Diamond Harbour close to the Sub-Divisional compound, but every one of them has been carried away, and I did not meet one single man who had once his habitation there. There is not a drop of sweet water procurable about the place, both the tanks in my compound and the fine tank of the Zemindar, Baboo Raj-krisna Mitter, have been filled with salt water.

Eight Hajut Prisoners made their escape on that day, and six are safely lodged in the Kidderpore Police Office. Of course it could not be ascertained whether they saved themselves by running away or lost in the Cyclone. I cannot at present, without the books, give their respective names, but I am certain that none of them were charged with any such heinous crimes as murder, theft, dacoity, or the like. Three were convicted by my predecessor as budmashes, but the evidence against them had been found to be weak by the Judge, who remanded their cases for further enquiry; two others were perhaps charged with having enticed away others' wives with intent to have improper intimacy with them; the remaining three were charged with some other bailable offences. On this head and on the subject of opening the Office newly I will speak in detail in my second Report. I only now entreat of you, Sir, to permit me to hold office at Alipore until the cold season sets in. The tent has been carried away, and there is no encamping ground during rains in that part of the country. There is not a drop of sweet water to be had, as also the provisions and the bad smell arising from the carcasses lying in hundreds near the Diamond Harbour house will prevent any one from going there for some time to come. Immediately after the holidays, I shall resume charge of the Treasury and remove it to the Collectorate. The destruction was rapid and unexpected, and no man could save anything, however valuable.

I now come to the subject of the present state of the entire Sub-Division which, with the exception of a part of Bankipore and Debipore, I grieve to report, is a mass of ruins. Starvation is staring in the faces of the poor people inhabiting the different lots and villages, and, unless the dead bodies of human beings and cattle are removed or buried immediately, there will be a plague, which will complete the act of ruination. As far as my eyes could reach, I saw nothing but bheetahs

washed away, and carcasses of cattles in thousands, and dead bodies of men, women, and children in hundreds. I have reasons to fear that nearly all the cattle has been destroyed, and those few that have survived will die for want of food. The straw has been blown off and the grass entirely destroyed. The only point of satisfaction I beg to bring to your notice is, that in some places paddy has not been so entirely ruined. Mr. Hugh Fraser has nearly a lakh and fifty thousand maunds of salt opposite to my house ; all that has been washed away, and his iron chest with two thousand Rupees gone. His men, with the exception of three, killed ; three of his grants have been entirely washed away, and the villages Canteburriah, Dulpobarrea, Haura, Mohindopore, Hurrinarainpore, Insonburriah, Monsaburriah, Culpee, Tankrubuchee, Doorganugger, Rangufalla, Cheetamora, Gopaulnugger, Radhanugger, Moragunge, Mudpoint, and many other places almost entirely depopulated and nearly swept away. From enquiries made by me, I have learnt with regret that about two-thirds of the population has been killed. The Inspector of the River Police, Mr. James Aitken, his wife, four children, a brother-in-law, a lady friend, and a Sergeant who had gone to Diamond Harbour to execute a Warrant, were all killed at the noon of the day by the fall of the house they were living in. An early burial of their bodies is needful. I made attempts to have them buried, but the men whom I saw there refused to touch them, and I could not wait there longer on account of the bad smell and want of food and water. Two Police boats with their crew have been destroyed, and the third boat is a complete wreck.

The Telegraph and Custom Houses have been shattered, and the furniture therein lost. Three Officers went with me to open the Telegraph line, but they were unable to stop there. Mr. Madge, the Police Inspector, was at Diamond Harbour, but he, too, was obliged to return. I saw Mr. Stack this evening while I was coming up and told him all. I believe a sufficient number of Policemen should at once be sent to Diamond Harbour to keep the peace, for the people have turned almost desperate, and they will do anything for the sake of food. I already noticed the commencement yesterday and this morning. The farmer of Government Ferry has been killed, and it was found a matter of very great difficulty to bring across those poor people who have swam for their lives from distant places. A boat and a boatman have therefore been placed by me in the ghat, whom I have instructed to take nothing from them. The Police should go there in a boat with plenty of water and provisions, or otherwise they will not be able to stop at the place. I am humbly of opinion that some Domes ought to be sent to Diamond Harbour without

loss of time for the burial of the dead bodies and removal of the carcasses, and some good water and a quantity of rice and dhal ought to be given to them who have lost all, and who mostly require them. A part of the Diamond Harbour road has been nearly blown off, and as we pass we see nothing but dead bodies floating on two sides of the road from Rajahat to the utmost limit of the Diamond Harbour Sub-Division. Something terrible has happened, and, unless Government kindly grant some sort of relief without delay, the case will be worse. A steamer or a large-keeled boat ought to be placed at the disposal of the Police for taking water and provisions and for their habitation, for there is no other place where they can stop. The spring tide sets in day after to-morrow, and the Sub-Divisional compound is almost without bunds. I hope the water will not rise again, or otherwise it will do more injury. I have submitted a hasty report, having come from the Sub-Division only this evening.

Telegram from Secy. to Govt. of Bengal, to Magistrate of 24-Pergunnahs,—(No. 4199 T, dated Darjeeling, the 15th October 1864.)

An advance of Rs. 5,000 for sufferers sanctioned. Endeavor to raise subscription.

Send Deputy Magistrate back there at once, and send extra Police if requisite. Do all you can to relieve sufferers.

From the HON'BLE A. EDEN, Secy. to Govt. of Bengal, to Offg. Magistrate of 24-Pergunnahs,—(No. 4203 T, dated Darjeeling, 17th October 1864.)

With reference to your demi-official letter dated the 12th instant, forwarding a report from the Deputy Magistrate in charge of the Sub-Division of Diamond Harbour, regarding the late gale, I am directed to inform you that the Lieutenant Governor desires that the Deputy Magistrate should return at once to Diamond Harbour and remain there in a boat or in a tent. It is presumed that you have taken proper measures for the interment of the bodies of the Inspector and his family.

2. You will be good enough to organize at once a band of *Domes* to be employed in burying the dead and the carcasses of cattle. You should also take measures to obtain a report on the condition of the Sunderbunds.

From H. L. DAMPIER, Esq., Commr. of the Nuddea Division, to Secy. to Govt. of Bengal, Darjeeling,—(No. 213, dated 14th October 1864.)

I have the honor to forward, in original, two reports by the District Superintendent of Police of the 24-Pergunnahs, on the state of Diamond Harbour, the villages on the Diamond Harbour Road, and Atcheepore.

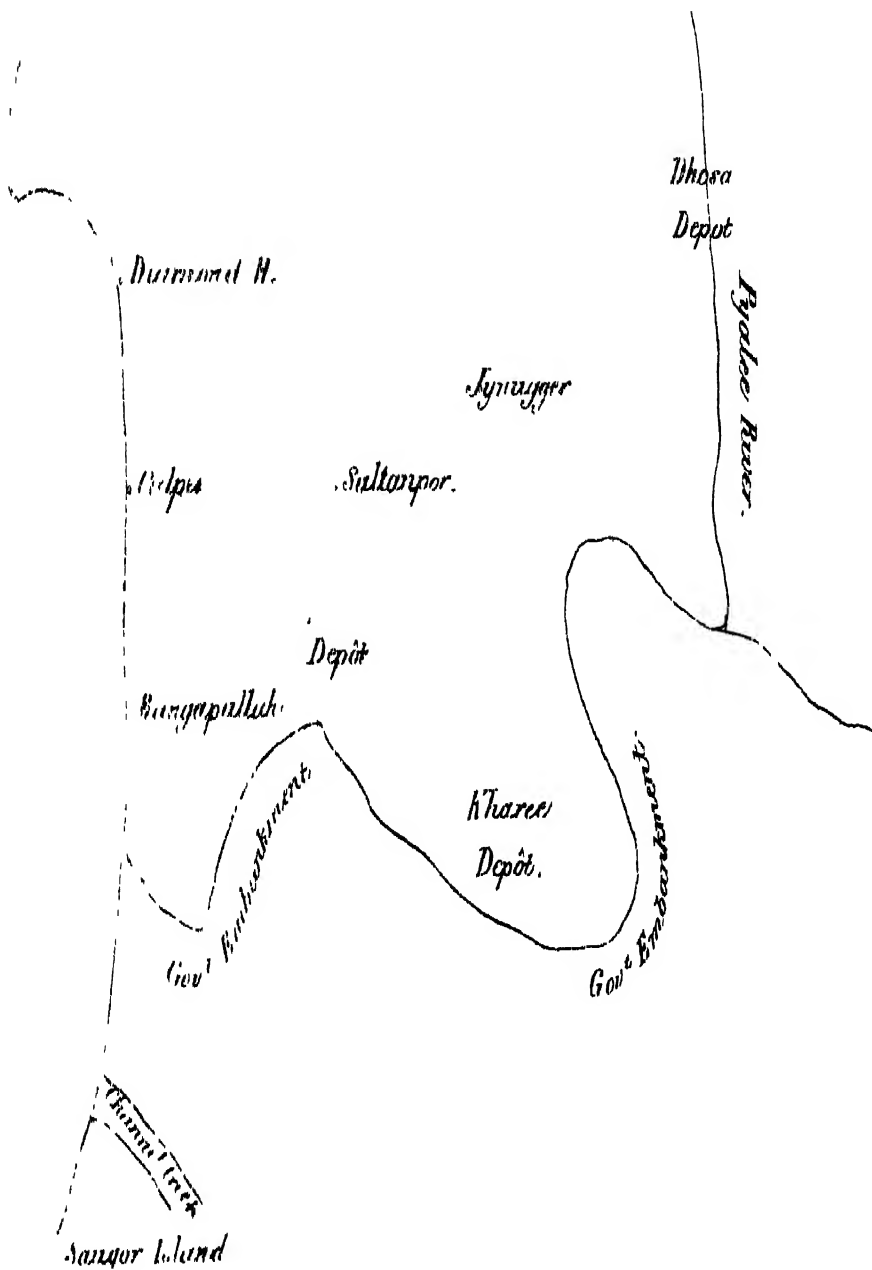
2. The Magistrate has been sending down supplies of rice and water to Diamond Harbour, Futtehpore, and Atcheepore. He has also sent down as many Moordafashes as he could procure to throw the carcasses and corpses into the river.

3. The last news is to the effect that the bodies of Mr. Aitken and his family have not been recovered, although search is being made.

4. A public meeting was held at the Office of the Chamber of Commerce yesterday, at which a large Guarantee Fund was made up. The Committee have taken up the River Steamer *Bombay*, which has left to-day with supplies of rice and fresh water. Mr. Smith, the Superintending Engineer of the South-Eastern Circle, is in charge. He is accompanied by Mr. Stack, the District Superintendent of Police, Mr. Payne, a Missionary who has placed his services at the disposal of the Committee, and Baboo Hem Chunder Kerr. The Steamer will touch at different points down the river, and Mr. Smith will make depôts of rice where he may find it necessary. He will also collect information.

5. Mr. Hugh Fraser has gone down to Saugor Island, from which we have as yet no information except that the Lighthouse signalled "all well" in answer to the *Celerity*. Mr. Smith will take his Steamer into Channel Creek, and will communicate with Mr. Fraser, leaving rice, &c., with him for distribution if any one is left on the Island.

6. We have no positive information yet of the state of the country east of Saugor Island; but I sent an express yesterday down to Joy-nugger, about 20 miles south of Barripore and 12 miles east of Culpee, and I expect information to-day. From all that we have heard as yet, there is reason to believe that the storm wave has not swept far east. Captain Howe tells me that one of the Government Steamers saw the wood-cutters out at work as usual about the Soptermookhee River (8 or 10 miles east of Channel Creek), and the vegetation there did not bear signs of having been swept over. Again Canning, which has been visited by the Superintending Engineer, has scarcely suffered; and the



Police Reports from Joynugger merely report the injury done by the storm to the Thannah buildings; no mention is made of the country being submerged. There is reason to hope that there is no want of food down there.

7. His Honor will have learnt from the Marine Department that the *Koladyne* has been out several days looking for wrecks and wrecked persons on the Soonderbuns seaboard and in the channels which intersect the Soonderbuns.

8. The expedition which has been sent out has orders to communicate with me. I shall of course report all I hear for the information of Government.

P. S.—I annex, in original, Baboo Bunkim Chunder Chatterjee's report of the state of the country about Joynugger. In anticipation of such a report, I had collected 250 bags (500 maunds) of rice, &c., at the Alipore Jail, which Mr. Robinson at once loaded on Saltee boats and despatched to Joynugger. I have directed the Deputy Magistrate of Barripore to make depôts of rice at Dhosa, Kharee or Nellooah, and at some place south of the Sultanpore Thannah. These places lie round Joynugger in a semi-circle, and their relative position is about as shown in the accompanying sketch. Culpee and Rangafulla will be provided with food from the Steamer. Baboo Brohmonath Sen, Deputy Collector of Nuddea, was passing through Calcutta. I have sent him down to assist Baboo Bunkim Chunder, and I have also desired the latter to avail himself of the assistance which I am sure Mr. Harrison, the Missionary at Barripore, will give. I have had the advantage of personal communication with the Revd. Mr. Driberg, who has been into the interior, but only far enough south to report that the storm wave had not reached the villages which he visited. I am only just in from starting the fleet of boats, and hope I shall be excused sending up my report in this shape. In no other will it catch the post.

From O. S. STACK, Esq., District Supdt. of Police, 24-Pergunnahs, to Magistrate of 24-Pergunnahs,—(No. 595, dated 13th October 1864.)

I have the honor to report, for your information, that I yesterday visited Atcheepore to ascertain the amount of damage done by the late storm.

2. I am happy to state that the loss of life in that direction appears to have been far less than at Diamond Harbour. But the destitution of the people is even more prominent than at that place, simply because there are more of them.

3. The Police Station has been completely destroyed. The Officer and men are at present in the Public Works Bungalow, which has had the roof blown off. The Telegraph House and the house in which the Officer in charge of Magazine resides have sustained considerable damage, but are still habitable. The Magazine itself is uninjured, but about 15,000 lbs. of gunpowder has been so damaged by water as to be worthless. About fifty lives are reported to have been lost in the village of Juggutbullubpore, close to the Magazine.

4. The Sub-Inspector of Atcheepore Police Station informs me that the day after the gale several bodies of Europeans were swept past that place.

5. While at Atcheepore, I was accosted by crowds of people stating that they had not eaten for several days, and that they could not afford to give the prices asked by the Mahajuns. It appears that those Mahajuns whose rice has escaped the storm and inundation are asking most exorbitant prices, and some of them refuse to sell at present in anticipation of a further rise. In the mean time the people are becoming desperate with hunger, and threaten to plunder the golahs. While I was at the Police Station, a charge of this kind was preferred against a number of men. The facts were, however, that the defendants offered as much money as they could afford for some rice; that the Mahajun wanted more; and that the defendants proceeded to help themselves. I distributed some rice which I had sent out for the Constables, among the people who looked quite famished. They appeared to be perfectly ravenous. Some of them had not tasted food for four days.

6. Since writing the above, I have received news from the Sub-Inspector of Atcheepore that the people are going about in mobs of 3 and 400 plundering the rice golahs that have escaped the inundation. I have reinforced the Police, but I need say that there have of late been so many calls in the Reserve Force of this district, that I have not the sufficient means to altogether prevent such outrages.

7. The Sub-Inspector states that the people are simply looking for rice. They do not take property of any other kind. They plundered a house before his eyes, and paid not the slightest attention to his remonstrances.

8. I shall adopt every possible means to put a stop to this, but I wish to point out the difficulty of restraining a whole population suffering from the effects of such a fearful and wide-spread calamity.

From BABOO BUNKIM CHUNDER CHATTERJEE, Depy. Magistrate, to Magistrate of 24-Pergunnahs,—(No. 111, dated Joynugger, 14th October 1864.)

I have the honor to report to you the result of my enquiries at Joynugger regarding the effects of the inundation.

2. In Joynugger and its immediate vicinity there has been no other mischief than the destruction of houses and trees by the force of the storm.

3. The villages and lots mentioned in the margin are those in the Joynugger Thannah which have been swept away by the inundation. The loss of life has often been considerable. Those whom the waters spared have deserted the place, and have sought shelter at Joynugger, Buhroo, Baraset, and other more fortunate villages. So that except at Dhosa and Baishat, there are probably very few now in the inundated villages to avail of any aid that may be offered. Still the Police might here and there pick up some unfortunate remnant of those perished or fled. At Dhosa, I understand, there is still a considerable population in distress, and so at Baishat. These people want both food and water.

Lot No. 37.	Bacooltoosa.
" " 36.	Nalconra.
Baishat (Lots Nos. 30	Manirtal.
32, 33.)	Dhosa.
Lot No. 27.	Dharmtolla.

* STATION BANKI-
FORE.

Mollarchuck.
Bamna.
Baropoa.
Junghara.
Agradani.
Kinangus.
Baushpala.
Sangrampore.
Garijolla.
Leeala.
Saratl.
Kanpore.
Oostee.
Netra.
Maluncha.
Lukhicantpore.

STATION SULTAN-
PORE.

Lukhicantpore.
Sultanpore.
Gabbaria.
Ghateswara.
Muthurapoor.
Ramnagore.
Ratneshwarpore.

3. I have not confined my enquiries to my jurisdiction, but included within their scope the adjoining parts of Thannahs Sultanpore and Bankipore, according to the purport of your note. I append a list* of such villages between the two roads as have suffered from inundation and * * the Barripore jurisdiction. These places are even worse than the Joynugger villages, and food and fresh water will be an inestimable boon to those who yet remain.

4. I have more information to furnish, but I cannot delay this letter.

From O. S. STACK, Esq., District Supdt. of Police, to Magistrate of 24-Pergunnahs,—(No. 594, dated 12th October 1864.)

I have the honor to inform you, in continuation of my Memorandum No. 656, that I have just returned from a visit to Diamond Harbour, and I consider it my duty to at once bring the state of that sub-district to your notice.

2. The hurricane of the 5th instant was there accompanied by an inundation of the river along the coast for about 8 miles inland. The disastrous effects which meet the eye on every side within the limits I have mentioned prove that the water must have risen unprecedentedly high and advanced with fearful suddenness.

3. After passing the village of Futtehpore about 8 miles from Diamond Harbour, the effects of the inundation are visible. The villages on either side have all suffered more or less. Some have been completely swept away, with only the floating wreck of houses, carts, &c., &c., to show where they stood. Others have been partially destroyed, only the houses that were situated on the lowest ground having been swamped. As the country is still under water, it was impossible to go into the villages and ascertain the exact amount of loss of life and property sustained, but the sights which met the eye on the road itself proved but too painfully and clearly that the loss of life must have been immense. I do not think I am going beyond the mark in saying that within six miles of Diamond Harbour it is impossible to go fifty yards of the road without seeing a human body. These are evidently the corpses of individuals who were overtaken by the storm and the flood on the road. What the loss of life must have been in the villages, may be imagined. In some villages every house has been swept away with almost all the inhabitants.

4. The carcasses of animals are lying scattered about by hundreds. The loss of property in this respect alone must have been very great. As may be imagined, the villages nearest the river suffered most. The nearer I approached to Diamond Harbour, the more numerous were the signs of the fearful violence of the inundation; human bodies were scattered about in groups of two and three, the carcasses of animals, principally cows, in tens and twenties. The Station of Diamond Harbour presents a scene of utter destruction. I need scarcely say that every Native hut in the place has been swept away, and, with a very few exceptions, every living soul that occupied them. I regret to have to record the death of Mr. Aitken, Inspector of River Police, his wife,

mother-in-law, and four children. Mr. Macdonnell, an Inspector of the Calcutta Police, who had gone down to Diamond Harbour on special duty and was stopping in the same house, was also killed. Mr. Aitken and his family occupied the Public Works Bungalow, a small pukka building. The river rose so rapidly that he had not time to leave the house. He and his wife and children got on tables and chairs to escape the water, when the whole house fell in, burying them of course in its ruins. The debris is now being removed and search made for the bodies. A group of huts occupied by a number of Native Christians have been completely swept away, and only about a dozen people saved out of eighty persons who inhabited them.

5. The Deputy Magistrate's house is so badly injured as to be almost uninhabitable. The Cutcherry house is a mere wreck. The Lock-up is standing, but the wall that surrounded it has been destroyed. A pukka building occupied by the Police Guard has fallen in. The Telegraph House has sustained severe damage, but is still habitable. The Custom House is but comparatively slightly injured.

6. As far as my own Department is concerned, every Police Station in the Sub-District has been either blown down or swept away; two Head Constables belonging to the Govindpore Police Station were drowned. Several Constables belonging to the various Stations are missing; their fate is as yet unknown. Nearly all the Station records and the articles lodged in the Malkhanahs are lost; most of the Officers and men have lost their uniform, accoutrements, &c.

7. I have particularly enquired into the conduct of the Inspector and the Guards at Diamond Harbour on the day of the storm; that they succeeded in the midst of a hurricane and inundation so severe and so sudden as to destroy and sweep away most of the inhabitants in rescuing and bringing away six out of fourteen prisoners, and all the Government Treasure, speaks, I think, equally well for the energy and promptitude of the Inspector and the discipline of the men; that they did not leave their posts a moment too soon, is proved by the fact that one of the Constables was drowned and three out of the eight prisoners whom I reported missing in my last letter are ascertained to have met the same fate. That this fearful and sudden calamity has to a great extent disorganized the Police of the Sub-District, I need scarcely say; self-preservation was the uppermost thought in every mind. I have now the honor to report the measures I have adopted to maintain peace and order and to protect property.

8. I have already stated that an Inspector, one Head Constable, and nine Constables were immediately despatched to Diamond Harbour on receipt of news of the fearful effects of the inundation. I have since reinforced this party with another Inspector, two Head Constables, and twenty men. I did this for the following reasons.

9. On the 7th instant, two days after the storm, a large number of men, it is said about a thousand, came to Diamond Harbour and commenced taking away salt from Mr. Fraser's Salt Golahs. The men were literally starving; they had no food for two days; they wanted the salt to mix with a kind of grass which they eat eagerly. At this time there was only a Head Constable and nine Constables present. They interfered to prevent the plunder of the Golah, the mob turned on them savagely and beat them off; the Constables had only batons; that they did all that men could do under the circumstances, is proved by the marks of severe beating they almost all bear; the fearful hardships of the two past days had almost driven the survivors mad. Even if a larger party of Police had been there, it is difficult to know how they could well have used more force towards men under such circumstances; though the unfortunate people can scarcely be blamed, it is impossible not to sympathise with Mr. Fraser, who has been a very heavy sufferer.

10. The Station of Govindpore having been completely swept away, I have procured a house at *Sorsa*, within two miles of that place, for a temporary Station, and sent an additional party of one Head Constable and six Constables to that place.

11. The Station of Daveepore has met the same fate. Rajahaut, about 4 miles distant on the main road, is the only place where I could find any shelter for the men. I have directed the Sub-Inspector to remain there, sending a Head Constable and two Constables on patrol every day to the site of the old Station; this is only temporary.

12. Reinforcements have also been sent to Bankipore and Bistopore.

I am compelled to send supplies of food from Calcutta to Diamond Harbour for the party stationed there, and fresh water from Bistopore to that place every day.

13. I procured twelve *Domes* (all I could get) at Tollygunge and immediately despatched them to Diamond Harbour to bury the dead and to render the Station at least inhabitable. The stench arising from the numerous bodies and carcasses is almost intolerable, and I fear that, unless immediate and effectual measures are taken, it will lead to a fearful amount of sickness.

14. On hearing that the few inhabitants who survived the storm in the immediate neighbourhood of Diamond Harbour were in a state of starvation, I, in accordance with the plan we agreed on, despatched ten maunds of rice and some fresh water by carts and donahs to that place for their immediate necessities.

15. As regards the River Police, I have already reported the death of the Inspector Mr. Aitken. Three boats have been destroyed, and as far as I can ascertain, all hands drowned. I cannot, however, speak positively on this point, but a number of Chupprassies belonging to the River Police have been picked up at Diamond Harbour.

16. I cannot close this report without mentioning that, as I rode along the road, men come out on all sides stating that they had not eaten for days, and imploring assistance. Their looks fully bore out their statement. There is every reason to believe that the destitution at present in the Diamond Harbour Sub-District is appalling, not only have the bazars and golahs with their supplies of rice been swept away, but the inhabitants have lost nearly all the means to procure food from elsewhere. I am afraid that unless prompt measures are taken for their relief, that famine and sickness will sweep away those who have escaped the inundation.

17. I must not forget to add that the sufferings of the people have been much aggravated by the want of fresh water. The same inundation, which was so destructive to life and property, rendered all the fresh water for about 15 miles inward brackish and unfit to drink. I send fresh water every day from Bistopore for the use of the Police.

18. I have confined myself in this report to a description of the state of the Diamond Harbour Sub-District, but all the other Sub-Districts have suffered more or less severely. In all, the loss of life has been considerable. I shall send further detailed reports as soon as possible.

From H. L. DAMPIER, ESQ., Commr. of the Nuddea Division, to Secy. to Govt. of Bengal,—(No. 221, dated 19th October 1864.)

In continuation of letter No. 213, dated 14th instant, I have the honor to submit the following further report in connection with the gale of the 5th October, as it affected the villages in the southern part of the 24-Pergunnahs, and the measures adopted to afford relief to the sufferers.

2. The Steamer *Bombay*, which was taken up by the Relief Committee, left with supplies of rice, &c., on the 15th instant, and reached Atcheepore at 7-30. Mr. Smith, Superintending Engineer, reports that

many villages in the neighbourhood are in need of relief. Fifty lives are reported to have been lost at Moyapore in the inundation. The paddy crop has not been injured, but huts, trees, and orchards have suffered considerable damage. Mr. Smith left thirty bags of rice and a maund of salt with Baboo Gopal Kissen Soor, the Officer in charge of the Powder Magazine, who is doing much good, having himself afforded shelter in his house to sixty or seventy of the sufferers, mostly women; and as 150 maunds of rice had previously been sent to the Thannah by the Magistrate, there is enough to meet present necessities. Many of the sufferers expressed to Mr. Stack their intention to come up to Calcutta for work, with which Lieutenant Colonel Beadle has engaged to provide them.

3. At Ooloobariah the people lived for the first four days on cocoanuts, but they have tided over the worst. Dead bodies have been cleared away, the stench has abated, and food in considerable quantities has arrived: rice selling at Rs. 2-8 to Rs. 3 per maund. The distress at Moirakha, a village further inland in Midnapore, is said to be great, but the Steamer could not be detained to allow of enquiries being made so far inland.

4. BOROE.—This place is 8 or 10 miles below Atcheepore. The ground being lower, the effects of the storm and the inundation have been much more disastrous here than at Atcheepore. The loss of life has not been great (about fourteen drowned), but out of about 300 houses, not a dozen are left. Mr. Stack was surrounded by a large mob clamouring for food. Supplies were left by the Steamer.

5. There is great distress in the surrounding villages of Paghuntolah, Boidoparah, Kessubpore, and Bullubpore, all which have suffered severely. From Boroe all supplies and stores of grain were swept away, the crops also having suffered more or less, many expressed their intention of coming to Calcutta for work.

6. NOORPORE, SREEPHOLHERRY, AGDAPORE, and DOARGAPORE.—All these villages, which are near Hooghly Point, have suffered severely, 150 lives having been lost in Noorpore alone, and as many in the other villages. Here also, as at Boroe, there has been entire destruction of property. Sixty maunds of rice and half a maund of salt were left in charge of one Prosonno Coomar Mookerjee for the use of the villagers. At the request of the people, the Superintending Engineer gave authority to cut the embankment at Noorpore to allow the river to sweep the country clear of dead bodies and carcasses.

7. DIAMOND HARBOUR.—At this place the wave was 11 feet high, and 3 miles inland it was above a man's height. The Deputy Magistrate's house has been injured on the south and west sides, but it is habitable. Baboo Hem Chunder Kerr remains there with 240 bags of rice, blankets, brandy, &c. : a Native Doctor has also been sent down. The Police had, before the arrival of the Steamer, received 100 maunds of rice, of which 25 had been distributed to about 200 people daily. The dead bodies have been removed from Diamond Harbour by the fourteen Domes sent down for the purpose, and these are now clearing the villages along the Diamond Harbour Road. The Deputy Magistrate, the Police, and a Dawk Moonshee, are the only officials at the Station.

8. SAUGOR ISLAND (Mud Point).—The last accounts from the Steamer do not take her so far as Saugor Island, but I have information from Mr. Hugh Fraser. The Island is cut in two 3 miles from the northern point by a broad channel, and ninety per cent. of the population are reported to have been drowned. Those who remain require food at once. Not a house is left, except the one at Mud Point belonging to the Telegraph Department, which is standing, and it is feared that the plant now on the ground will yield nothing. Creeks are burst open and embankments washed away, the wave having swept inland 10 miles on the Kedgerie side, and 8 on the other. The water did not rise gradually, but came rolling on like a high wall. Mr. Fraser states that he has lost every thing in the salt. He has got a boat out of water and was sending for rice. The people refuse to bury the dead, because *their* dead were swept into the channel, and the bodies that are lying about are those from Kedgerie and Cowcolly. Mr. Hunter, who has already spent four *lakhs* of Rupees in clearing his estate on Saugor Island, and re-making it three times after destruction by inundation, will be a great sufferer.

9. DHOSA, which is north of Joynugger, is in distress; but the people are not starving.

10. Towards Sultanpore the people are starving, and acts of violence and depredation are being committed. The Deputy Magistrate of Barripore, Baboo Bunkim Chunder Chatterjee, has been deputed to the spot at once with supplies, and I have sent Baboo Brohmonath Sen, a Deputy Magistrate of Nuddea, to assist him.

11. From Nellooah and Kharee the news is not very bad, but supplies will be sent to both places. Mr. Harrison, the Missionary of Barripore, will collect information from those who come to Joynugger *Haut*.

12. It is feared that the effects of the gale will be found more severe as the Steamer goes further south. Mr. Smith has proposed to the Committee of the Relief Fund to send to Diamond Harbour a further and a larger supply of rice, as the quantity already supplied will not last many days.

13. The *Koladyne* returned on the 15th from cruising about the Soonderbuns Channels and Sea-face as far east as Mutlah. No signs of either wrecks or wrecked were observed. The vegetation and the state of the country shows that the storm was not severely felt far east of the Hooghly. The *Koladyne* was offered to me for a few days, but I do not see that her services can be utilized, at any rate until the *Bombay* returns.

From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to Commr. of the Nuddea Division,—(No. 4537, dated 27th October 1864.)

In reply to your letters noted on the margin, I am directed to inform you that the Lieutenant Governor approves of your proceedings in connection with the relief of the sufferers from the effects of the late Cyclone.

No. 221, dated 19th instant.
 „ 229, „ 21st „

2. I am desired to request that you will convey to the gentlemen named on the margin the thanks and acknowledgments of the Lieutenant Governor for the part they have taken in these measures of relief.

Mr. Smith.
 „ Stack.
 „ Payne.

From J. GEOGHEGAN, Esq., Under Secy. to Govt. of Bengal, to Commr. of the Nuddea Division,—(No. 4352, dated 21st October 1864.)

I am directed to acknowledge the receipt of your letter No. 213, dated the 14th instant, and in reply to communicate to you the Lieutenant Governor's approval of your proceedings in connexion with the distress caused by the late Cyclone in the Diamond Harbour Sub-Division.

2. His Honor notices with cordial approbation the prompt energy of the Magistrate of the 24-Pergunnahs in sending aid to the sufferers, and in taking measures to bury the dead, and to remove the carcasses of animals and other matters likely to cause injury to the public health.

3. These measures, His Honor desires me to observe, should be persevered in until the whole of that portion of the country visited by the Cyclone which lies in your Division has been cleared, and until the people are enabled to provide means of subsistence for themselves.

4. A systematic plan, His Honor thinks, should be arranged under responsible Officers for the regular supply of food and water to the distressed villages.

5. If extra Police are required to maintain order and protect property, His Honor authorizes you to entertain them.

6. His Honor also desires that the Magistrates of the districts affected by the Cyclone, should co-operate with the Committee of the Cyclone Relief Fund, and make the public establishments available for applying in the most efficient manner the money which has been subscribed for the relief of the people.

From H. L. DAMPIER, Esq., Commr. of the Nuddea Division, to Secy. to Govt. of Bengal,—(No. 229, dated 21st October 1864.)

In continuation of my letter No. 221 of 19th instant, I have to report the further information obtained by the Superintending Engineer and his party who went down on the Steamer *Bombay* with supplies.

2. Near *Culpee* the *Bombay* found the *Alligator* Tug high and dry; 500 villagers were employed in digging a channel to get her off. The *Bombay* reached *Culpee* on 16th, and left sixty bags of rice, &c., in charge of Koilas Chunder Deb. Goluk Shah, headman of the place, assists in storing and distributing the grain.

3. In *Culpee* two-thirds of huts have been swept away; 28 drowned. In *Bhugwanpore* 100 are said to be drowned. Embankments are badly breached.

4. On 17th Mr. Smith visited *Rungafulla* and *Tongrabeechy* Haut near the Obelisk, and left sixty bags of rice, &c., with Premchand Biswas, Gomashta; Sumboo Chunder Ghose, Talookdar, assists, and Mr. Fraser's Gomashta, Govind Chunder Bannerjee.

5. Here there has been dreadful loss of life. Accounts are conflicting as to percentage, but the Superintending Engineer states that at least 30 per cent. have perished in the villages within two miles of the river. The Revd. Mr. Payne made numerous enquiries, and estimates 70 per cent. for all villages within one mile of the river, and 30 to 40 for all beyond which the storm wave reached. The loss in cattle is estimated at 80 per cent.

6. MUD POINT (Saugor Island.)—The Telegraph Signal House has sustained comparatively little injury. The wave which swept across Saugor Island was 15 feet above the level of the land. The Signal

Staff at Mud Point is safe; but one of the Baboos in charge was drowned, the other gone to Calcutta. Telegraph posts are standing. Many dead bodies are lying about Mud Point. Saugor Island is literally denuded of every hut and village; 90 per cent. of population are drowned. All cattle and wild animals are destroyed. There are no jackalls, dogs, or vultures to do the duty of scavengers. Nearly all the bodies of the Saugor Island people and the carcasses are on the mainland north of the Island. The survivors escaped by climbing into trees or floated inland on thatches for miles; 250 or 300 persons come round Mr. Smith at Trower land or Company's chur. Mr. Smith left 300 bags of rice, &c., and about 5 tons of water, and a Native Doctor on Saugor Island. He left so large a supply because of the difficulty of communication. The supplies were made over for distribution to Mr. Fraser and his Assistant, Mr. Kennedy.

7. Mr. Fraser did all he could for his ryots. Baboo Prosadoss Dutt, a Grantee, has also sent down from Calcutta a jolly boat laden with rice.

8. The *Bombay* next touched at Kookrahattee, on the west bank of the Hooghly, and Mr. Smith landed at Makerputtan, near Fort Morington, at the mouth of the Roopnarain. Here he left the remainder of the stores in charge of Puddolochun Dutt and Koylashohunder Dutt.

9. Thus eight Station, have been supplied in all from the Steamer; two more supplies have been sent by the Magistrate; and the Deputy Magistrate of Barripore is ordered to make three other depôts inland.

10. Hr. Smith acknowledges the prompt and valuable aid of Mr. Stack, District Superintendent of Police; also the services of Mr. Windle, of the Public Works Department, and the cordial aid and indefatigable enquiries of the Revd. Mr. Payne, who took the greatest interest in the object of the expedition and obtained valuable information.

11. At Rungafulla Mr. Smith found that in the first day 532 people were relieved from the supplies he had deposited there—

444 men.

30 women.

60 children.

12. The Steamer returned to Calcutta on the 18th, and a Meeting of the Cyclone Committee was held on the 19th, at which it was resolved immediately to send down another Steamer with 2,000 bags of rice for both sides of the river.

13. Captain Howe has placed the *Teesta* at the disposal of the Committee for this purpose, and His Honor the Lieutenant Governor has allowed me to make use of the services of Mr. D. J. McNeile, who will go down in charge of the supplies and remain in the distressed part of the district in general charge of the relief depôts and operations on both sides of the river. The Steamer will start on Saturday morning.

14. I learn that above 2,000 people were relieved by the rice which the Magistrate sent down to Atcheepore alone, before the Committee supplies arrived.

15. Every endeavour has been made to collect Domes, and a number of them have been sent down to clear the villages.

16. About 1,500 people are reported to have been relieved at Diamond Harbour alone on the 19th.

17. From the Deputy Magistrate of Barripore I learn that there is no urgent want of food about Joynugger; the hâts are held as usual, but things are selling at famine prices,—salt, for instance, at 10 annas a seer.

18. Villages do not appear to have been swept away east of Sultanpore, which is about 8 miles east of Culpee.

From H. L. DAMPIER, Esq., Commr. of the Nuddea Division, to Secy. to Govt. of Bengal,—(No. 240, dated 5th November 1864.)

As required in your No. 4133T, dated 11th October, I have the honor to submit in original a report from the Officiating Magistrate of the 24-Pergunnahs, on the effects of the gale and the measures taken by him for the relief of the suffering population to the south.

2. This report, with those noted in the margin, which I have addressed direct to the Government, complete the account of operations up to the despatch of the second relieving expedition under Mr. McNeile, of which I have not yet received a report.

No. 213, dated 14th October.

„ 221, „ 19th „

„ 229, „ 21st „

3. Everything which Mr. Robinson reports has been done in constant personal and demi-official communication with myself, and I have little to add to his account. Since I wrote the instructions on which his letter No. 792, dated 24th October, is founded, I have requested the Magistrate to take active measures for the clearance of the tanks and drains in the suburbs, as well as in the interior; and I

have directed him to compel those who are in a position to do so, either to clear their own premises, or to pay for the cost of having the work done by the Magistrate's workmen.

4. The thanks of the Government have already been given to the Revd. Mr. Payne, to Mr. Smith, Superintending Engineer, and to Mr. Stack, District Superintendent, for the assistance they have given in the relief operations. Mr. Robinson's exertions and activity have been incessant, and I desire to record my recognition of the willingness and efficiency with which he has worked with me in this matter.

5. The Relief Committee have placed a sum of money at my disposal for distribution towards the relief of distress in my Division. The following extract of a Note which I drew up on the subject will show the steps I have taken to distribute the charity properly:—

“The money so placed at my disposal cannot be properly applied without local enquiry as to the actual losses incurred by different families; for these local enquiries several officials are available, and I have no doubt that some of the gentlemen who have already offered their services to the Relief Committee will be willing to assist.

“The tract over which I wish to make the enquiry extends from the river to a distance of about 10 miles inland, from Atcheepore down to Saugor Island. To the south it extends further, about 20 miles inland.

“I have divided this tract into eleven convenient circuits of about 40 or 50 square miles each; I annex a Statement showing the boundaries of each. I hope to be favored with the assistance of eleven gentlemen who will undertake to visit these and make the necessary enquiries at once.

“I would ask each visitor to move about the circuit assigned to him, visiting the sites of the most populous villages, and giving notice beforehand of the day at which he proposes to be at each of these, so that the men from the smaller villages around it may come in and state their case.

“The villagers being thus collected together, a summary enquiry could be made, from which it could be ascertained roughly which families have really been thrown into destitution and require relief. The visitors would then draw up for every village a report showing the following particulars as to each family which he might decide on recommending for relief:—

“Name of head of family.

“Religion or caste.

“Number of persons left in the household, distinguishing the men from the women and children; rough statement of the nature and extent of losses.

“Remarks explaining the grounds on which the family is considered entitled to relief, and stating the nature and extent of any property and means of subsistence which they still have left.”

Five gentlemen have, as volunteers, undertaken circuits—

Reverend C. Driberg.	|	Revd. W. Harrison.
Baboo Degumber Mitter.	|	Revd. G. Kerry.

Mr. Hugh Fraser.

6. The good conduct of the Police described in the 21st paragraph of the Magistrate's report will, I hope, meet with favorable notice from Government.

7. Copy of the Magistrate's letter No. 762, dated 18th October, is annexed. I regret to be obliged to condemn Baboo Hem Chunder Kerr's conduct. In the first place, however, the question may stand with regard to other Officers; it is very wrong for an Officer in charge of a Sub-Division who has no colleague at the Station to leave his Head Quarters for any time (even for duty within his own jurisdiction) without acquainting the Magistrate of his absence and movements; but Baboo Hem Chunder came away to Calcutta the moment the holidays began. The Magistrate sent him back on Saturday. Baboo Hem Chunder returned to town on Sunday, and wrote a report, dated 9th October, from which the following is an extract:—

“I only now entreat of you, Sir, to permit me to hold office at Alipore until the cold season sets in; the tent has been carried away, and there is no encamping ground during the rains in that part of the country. There is not a drop of sweet water to be had, as also the provisions, and the bad smell arising from the carcasses lying in hundreds near the Diamond Harbour house will prevent any one from going there for sometime to come. Immediately after the holidays I shall resume charge of the Treasury and remove it to the Collectorate.” On Tuesday the Magistrate, after hearing the District Superintendent's account of the state of the Sub-Division, at once wrote a letter to the Deputy Magistrate, “and sent it by a special messenger that day, Tuesday, desiring him to return at once to Diamond Harbour.”

8. On the evening of the next day, the Magistrate received a letter from the Deputy Magistrate, contradicting the District Superintendent's statement as to Diamond Harbour being then habitable, and stating that

the Sub-Divisional building was unsafe; that no water or provisions were to be had; that there was no place to live in; and that the bad smell from the bodies was unbearable. The Deputy Magistrate, however, declared his intention of going out to encamp somewhere in his Sub-Division as soon as certain tents, quills, red ink, Penal Codes, red tape, and other stationery, for which he indented on the Magistrate, should be sent to him. Having received instructions on Tuesday to return to his Sub-Division *at once*, Baboo Hem Chunder Kerr was still in Calcutta on Thursday, when I sent him peremptory orders to the same effect.

9. During the time that Baboo Hem Chunder Kerr was absent from his post, Mr. Hugh Fraser was visiting his ruined estates at Saugor Island, which was suffering intensively from the effects of the storm. One European Missionary at least to my knowledge was going about among the people who had suffered; and Mr. Stack, the Superintendent of Police, was visiting the Sub-Division. I cannot admit that there was any necessity for the Deputy Magistrate taking up his quarters in Calcutta. It was clearly his duty to hurry back to his Sub-Division as soon as the gale had occurred, and to make his own arrangements for temporary quarters as near to Diamond Harbour as he could live, so as to be close to his post if not at it. Instead of doing this, or in any way assisting the Magistrate at a time when that Officer was overwhelmed with calls on his time and attention, Baboo Hem Chunder Kerr sat in Shambazar and entreated to be allowed to remain in Calcutta till the cold weather, stating that he would resume charge of his Treasury after the holidays. When pressed to return to his post, he merely wrote to the Magistrate to supply him with things which, under the circumstances, he should certainly have taken the trouble to procure for himself. I must say that I am much disappointed to find an Officer of Baboo Hem Chunder Kerr's antecedent acting thus.

From W. L. ROBINSON, ESQ., Offg. Magistrate of 24-Pergunnahs, to Commr. of the Nuddea Division,—(No. 762, dated 18th October 1864.)

In sending you the accompanying reports (one copy and two in original) concerning the state of Diamond Harbour by the Deputy Magistrate, Baboo Hem Chunder Kerr, I have the honor to inform you that that Officer probably escaped death by having come on a visit to Calcutta the previous evening, his Court having closed that day for the holidays. Nothing beyond a vague rumour was known as to the

devastation at Diamond Harbour till Friday evening, the 7th, the storm having occurred on Wednesday, 5th. I saw the Deputy Magistrate on Saturday morning early, and at once told him that he must return to his Sub-Division immediately; this he did, going out there that day, and returning again on Saturday evening, when he sent in his first report, dated 9th October, which I received on the 10th. In the mean while I had arranged with Mr. Stack, the District Superintendent of Police, that he should himself go out to Diamond Harbour on Monday, and consequently I passed no orders upon the Deputy Magistrate's report of 9th instant until I could hear Mr. Stack's account, though I confess I was not quite satisfied with the Deputy Magistrate's speedy return. Mr. Stack returned late on Monday night, and I could not see him till Tuesday morning; he confirmed the Deputy Magistrate's account of the great loss of life and suffering at Diamond Harbour, but told me that he thought it was possible for Hem Chunder Kerr to live at the place, though a residence there under such circumstances must necessarily be far from pleasant, and that he himself was sending out a fresh party of Police to the spot, and Domes had been sent to remove the dead bodies on the previous Sunday. Feeling how necessary it was that the Deputy Magistrate should be at his post, I at once wrote him a letter and sent it by a special messenger that day, Tuesday, desiring him to return at once to Diamond Harbour.

Not hearing any thing from him on Wednesday morning, I was under the impression that he had gone, till at 6 p. m. of that day I got his letter of that date, which showed his reluctance at any rate to return, though it left me in doubt as to whether he had actually started or not, and I was still in that uncertainty when I saw you on Thursday morning, and indeed up till Friday morning, when the Deputy Magistrate attended the meeting of the Committee in compliance with the letter I had written him at your suggestion. I confess that I am disappointed in the Deputy Magistrate's conduct; from his high character for energy and zeal, I had hoped better things of him in such an emergency. I wanted an Officer in the Sub-Division at the time, who would be doing his best to relieve the distress of starving people, cheer them up, and repair as much as possible the damages caused by the hurricane, and I had one writing to me for pens, ink, paper, erasers, ink pots, and Penal Codes, and waiting for an answer to his letter before he even attempted to start for his Sub-Division after he had received orders to do so at once. He ultimately went down, as you are aware, in the steamer chartered by the Relief Committee.

I received yesterday his letter of 16th instant, to which I have myself replied, telling him that no more Police can be sent from here at present (as I ascertained from a reference to Mr. French, Assistant in charge), and that I expected him to be energetic and able to keep the peace with the force at his disposal. In fact the only breach of the peace to be anticipated was from starving wretches in search of food, and as the steamer has supplied their wants (to say nothing of what has been sent from here), and Mr. Stack from whom I also heard, says nothing of the want of more men, I consider that there is no real necessity for sending them.

I have pointed out to him that his remarks as to the expediency of sending down the steamer were uncalled for, and that what he is required to do is to act energetically in the distribution of rice to those in need of it, and not to raise up difficulties which he, the Sub-Divisional Officer on the spot, should be able easily to overcome; in fact that I want work and not writing.

From W. L. ROBINSON, Esq., Offg. Magistrate of 24-Pergunnahs, to Commr. of the Nuddea Division,—(No. 820, dated 27th October 1864.)

I have the honor to send you this report on the late storm as far as this district is concerned for transmission to the Government of Bengal, as required in Mr. Secretary Eden's letter No. 4132 T of 11th October; but before entering upon the subject, I may perhaps be allowed to state that, knowing that you have already reported generally on the results of the storm, I shall confine myself, as much as possible, to details more immediately affecting this district, and the means adopted to afford some (however inadequate) relief to the sufferers before the Public Meeting was held, and I shall, as far as possible, avoid re-stating anything already brought to the notice of Government in your reports.

2. The storm occurred, as is known, on Wednesday, 5th October; as soon as it abated, finding all the roads blocked up by fallen trees, I ordered Mr. Dobson, the Keeper of the Alipore Jail, to turn out as many prisoners as he could in the morning and clear the main roads at any rate as speedily as possible. I was out myself early, and spent the greater part of that day in driving about (where it was possible) through Kidderpore and Garden Reach, and giving orders for the removal of trees from the roads, and Friday morning was devoted to the same work. Before proceeding further, I may state that the damage done in the Suburbs by the falling of houses, &c., has of course been very considerable, but the loss of human life has not been so very great: I cannot, however, at the present moment say exactly what it is.

3. It was on Friday night that I first heard of the disasters at Diamond Harbour almost simultaneously from the Police and from a man sent me by the Judge (he was the Nazir of the Moonsiff at Govindpore), and it was then that I first learnt that the Deputy Magistrate was not at Diamond Harbour; on that subject I need say no more here, as I have already reported on it to you.

4. As soon as Mr. Stack returned from his visit to Diamond Harbour with reliable information as to the wants of the place and neighbourhood, I lost no time in sending out food for the starving population, and as many domes as could be procured (only thirteen or fourteen) had been previously sent down to remove as many bodies as possible. Mr. Stack had already sent out small supplies of rice and water for the Police, and after consultation with him and Mr. Beaufort, the Judge, who kindly offered his services to me in any way in which he could be useful, I determined to send out rice to Diamond Harbour and Futtehpore, a place on the road between this and Diamond Harbour, about twenty-five miles from here.

5. I had great difficulty in procuring carriage for the rice; but as soon as carts could be got together, 50 maunds of rice were hurried down to Diamond Harbour and the same amount to Futtehpore, and fresh supplies were constantly sent to keep up these depôts until the Relief Committee was appointed. As soon as I heard of the distress at Atcheepore also, grain was sent out there, and a depôt has been subsequently established at Dabepore, which latter, as well as the one at Futtehpore,

i. e., at these three inland places.—H. L. D.

NOTE.—The Relief Committee have undertaken to pay for all supplies sent out by the Magistrate after the date on which the Committee came into existence.—H. L. D.

I am still keeping up for this reason, that the places named are inland and not easily reached by parties from the steamers sent down by the Relief Committee. Moreover, the distribution has been made all along by the Police for want of other agency, and as

I imagine that a lengthened continuance of these supplies will not be required, I have thought it best to continue them myself for the present.

6. A list is appended showing, as nearly as I can, how many persons have been relieved by the supplies forwarded officially, and totally irrespective of the proceedings of the Public Relief Committee, and I do this solely and entirely in consequence of remarks I have heard, that nothing had been done officially to relieve the distress until the Public Meeting was held, an opinion which, if it exists, I cannot admit to be correct.

7. That the aid afforded was not as great as it might have been, no one will more readily allow than myself, but I assert that it was as much as the information at first obtainable warranted and the means at my disposal permitted me to afford; it was very difficult, as you are aware, to get accurate information at a later period even, and the difficulty of procuring carriage at first may be surmised from the fact that Rs. 1,000 a day was demanded from Mr. Fraser for a cargo boat to take down supplies, and I was compelled to have recourse to carts which were almost equally difficult to get; I may add that from Futtehpoore, salties are now sent with rice daily on each side of the Diamond Harbour Road to the south-east and south-west to relieve the wants of villages at any distance from Futtehpoore itself.

8. With the course which has been taken to supply the Sub-Division of Baroepore with food you are acquainted, and as that relief has been supplied by the Relief Committee (though the means of transport was provided by Government), I need not perhaps further allude to it here except to state that the distress was not nearly so great about Joy-nugger as I had at first been led to suppose.

Houses have of course been blown down everywhere, and a good deal of distress necessarily has been caused by that and the natural rise which took place at once in the price of everything, but the latter is a difficulty which will soon solve itself if left alone.

9. The part of the district which has really suffered greatly is from Rangafulla and Saugor Island up the river bank to Atcheepore, and inland from the river for a distance of, I should say, from five to eight and ten miles; in fact that part of the district over which the storm wave extended.

10. Throughout this tract of country, the loss of human life and destruction of cattle and crops has been very great, and the survivors must also have suffered very much, at first at least, from want of food, but already I hope a great change for the better has been effected. So far as my own opinion goes, I do not think there has been much suffering from want of water, because the river water is at least drinkable, and the distressed people were all, it may be said, within reach of the river.

11. As far as I can learn, the Soonderbunds, except perhaps one or two lots, have not suffered so much as the parts of the district above alluded to; I have heard of one or two cases of loss of life only, and of a few bunds being broken, but none of the reports speak of any such amount of distress existing as to make special measures for its relief necessary.

12. Wherever the storm wave extended, I fear there will be a great loss of the rice crop ; already I hear from the neighbourhood of Dabepore that it has turned black, and this, I fear, will be the case with the greater portion of the crop in the submerged district.

13. You are aware of the measures taken by the Relief Committee to afford still further help, so I need not give any account of them ; but I may state that the suggestions you made for the baling out of tanks filled with salt-water, and for clearing out the small branches, leaves, and other debris blown by the storm into other tanks, have been ordered to be carried out, as the accompanying copy of my letter on the subject will show.

14. I may also state that there are upwards of sixty domes employed in removing carcasses ; it was with great difficulty, and only by giving a very high rate of pay, 1 Rupee a day, that I could get so many. They have already cleared the road from Joynuggur to Culpee ; but they are not all working at one place. I thought it better to sub-divide them, and sent parties to Diamond Harbour, Gobindpore, Bankeepore, Sultanpore, and Dabepore to work under the superintendence of the Police, and to commence clearing away from those points. I should like to have obtained more men, but it was impossible ; even the offer of a Rupee a day failed to tempt domes from Barrackpore, where many live, but Major Sneyd says they have plenty of work to do there, and will not go to a distance.

15. With regard to the actual loss of life in the district, I have not yet got accurate information on the subject, but the following casualties have already been reported :—

			Lives Lost.
Sudder Sub-Division	...	...	49
Baroepore	...	...	19
Nyehatty Police Station	...	...	8
Nowabgunge	..	...	11
Dum-Dum	...	...	7
Busseerhaut	...	...	8

these may be mostly put down as caused by the falling of houses and trees.

From Diamond Harbour 1,360 deaths are reported chiefly in the jurisdiction of Gobindpore Police Station. No returns have yet come in from the Sultanpore Station, where the loss of life is supposed to have been quiet as great as near Gobindpore ; the first expedition sent down by the Relief Committee estimated the loss of life at Rangafulla at about 70 per cent., but Mr. Stack thought 50 per cent. would be a moderate average.

16. I may state here that the bodies of Mr. Aitken, the Inspector of River Police at Diamond Harbour, and his family, have not been found, with the exception of one child, who was buried. I thought the bodies had been buried in the ruins, but such was not the case, they must have been swept away by the water into the interior, as was the case with the body of the Inspector of Calcutta Police, who was also drowned.

17. In eleven villages in the Diamond Harbour Sub-Division, the property of Bahoo Rajkissen Mitter, out of a population of 2,266, no less than 406 lost their lives. This Zemindar informs me that on 14th October he sent down one boat with provisions, and another on 23rd instant, which he calculates will supply the wants of his people until the time of harvest.

18. Since commencing this letter, several of the inhabitants of the distressed part of the country have been coming to me with petitions for help; yesterday I had a deputation from Joynteea, Jugornathpore, and Nowpara, in the vicinity of Akra; these people put down the number of houses in the three villages as 1,900, and the loss of life at 100; they say that about 10 annas of the dhan has been lost, and the object of their petition was that their Zemindar might be directed to remit half their rents, when they would, they said, be able to get round without further relief. Yesterday again a large crowd presented petitions to the same effect. Of course I am unable to pass the order they wish; but if I may be allowed to express an opinion, I think such a remission is one that would be felt by all as a great help if speedily made known.

19. I have not thought it necessary to call in the aid of any extra Police, except a few Constables whom the District Superintendent applied for; there were one or two cases of plunder by starving people merely to get food, as for instance near Atcheepore where the Mahajuns who had rice refused to sell, and their stores were in consequence sacked by the starving wretches, who, if they contravened the law, only acted as men placed in such a position would naturally act, and I confess they have more of my sympathy than the greedy merchants who tried to make a profit out of their misery.

20. In the Diamond Harbour Sub-Division only has the Police Force been nearly doubled; there were there ordinarily 2 Inspectors, 4 Sub-Inspectors, 12 Head Constables, and 70 men; there are now 4 Inspectors, 8 Sub-Inspectors, 19 Head Constables, and 130 men. The District Superintendent thinks this Force quite sufficient, and I agree with him.

21. I cannot quit this part of the subject without bringing to notice the good conduct of the Police at Diamond Harbour. When the storm burst they stuck to their post till the very last, and when forced to leave, brought with them nearly all the prisoners in the Lock-up, and all the Government treasure, amounting to some Rs. 8,000. These men must have suffered considerable loss personally and with regard to uniform, &c., and I think if any compensation could be granted to them, it would be well bestowed.

22. I also wish to bring to notice the great assistance I have received throughout from the District Superintendent of Police, Mr. Stack, who, though not in very good health, has never spared himself, but has been most energetic and indefatigable in assisting me in the measures necessary to relieve the sufferers even when what was desired did not come within the scope of his own particular duties as District Superintendent of Police. My best thanks are due to this Officer as well as to Mr. French, Assistant Superintendent of Police, who has also been of great use to me; and in conclusion I will only express a hope that, taking all circumstances into consideration, the measures I adopted in a time of no ordinary difficulty will meet with the approval of the Lieutenant Governor.

Statement showing the amount of food sent out by the Magistrate and the number of people to whom it was distributed apart from the operations of the Relief Committee.

One hundred and thirty maunds of rice was sent to Diamond Harbour, but as soon as the Relief Committee's supplies were received there, they were thrown into a common stock, so it is impossible to say how many were fed from the rice sent down by me. Some hundreds were certainly relieved before the steamer went down there.

FUTTEHPORE.—To this place 224 maunds of rice were sent and 7,304 have been relieved, but this does not show the total who have actually benefitted, because I left a discretionary power with the distributors as to the amount to be given, and when people came evidently from a distance, were in great distress, and had families at home wanting food, more rice was given to them to enable them to take some home. Rice is still being sent out to this dépôt as the stock there decreases.

DABEPPORE.—One hundred maunds of rice have been sent to this dépôt, and from the first despatch of 50 maunds 2,068 persons were fed up to 24th instant.

ATCHEEPFORE.—One hundred and two maunds were sent to this place and 2,492 persons were relieved from it up to 19th instant.

Total 556 maunds of rice.

Persons relieved 11,864. But I think it may fairly be considered that at least a third more than that number actually received relief owing to the plan adopted as stated above.

From W. L. ROBINSON, Esq., Offg. Magistrate of 24-Pergunnahs, to
Depy. Magistrate of Diamond Harbour and Baroepore,—(No. 792,
dated 24th October 1864.)

I have the honor to state, with reference to the condition of tanks in your Sub-Division, that you should make every exertion to get the people themselves to clear them from leaves, old straw, or other matters blown into them during the recent storm; the leaves and small branches should all be collected together and burnt as soon as possible. If you cannot get the people to do the work themselves, you should employ, if possible, the suffering population who are now fed by the Celief Committee in this work, making it a condition that an able-bodied man who refused to do the work should not receive food. Where food is wanted, you can pay in food, and where a man with a family works at clearing tanks, his family may get a supply of food too if necessary; where food is not required, you can pay in money. You will probably find the people themselves, or at any rate the sensible part of them, willing to aid in this work, and to afford information as to what tank or tanks in a village are most necessary to be cleansed at once. It is very necessary that this work should be done promptly, otherwise it may be feared that an epidemic will ensue.

2. Again in some of the tanks which have, I believe, been filled with salt-water, if that water is baled out, fresh water will gradually rise in the tank. Some villagers have expressed their willingness to bale out such tanks if, during the time they are so employed, food be supplied to them and their families; this you are at liberty to grant. Buckets for baling will, if possible, be sent down by a Tug-Steamer on Wednesday to Diamond Harbour and Culpee, and if they are not enough, you can, I imagine, easily arrange some process for baling by other means; where a tank is being baled or cleaned out, no korakee must be allowed to any able-bodied male, unless he has been working either at the cleaning operations or *bonâ fide* in putting up his house.

3. You will be good enough to keep me duly informed how you get on with this work.

From the HON'BLE A. EDEN, Secy. to Govt. of Bengal, to Commr. of the Nuddea Division,—(No. 5036, dated 15th November 1864.)

I am directed to acknowledge the receipt of your letter No. 240, dated the 5th instant, and enclosure, reporting the measures adopted by the Officers of the 24-Pergunnahs and others to afford relief to sufferers from the late Cyclone, and in reply to request that the thanks of Government may be conveyed to Mr. Robinson, the late Magistrate of the 24-Pergunnahs, for the energy and judgment with which he did all in his power to meet a great and sudden emergency. I am further to request that Messrs. Stack and French of the Police Department may be informed that the Lieutenant Governor has read with sincere pleasure the testimony to their zeal in affording relief to the sufferers which is borne by Mr. Robinson. I am also to record the Lieutenant Governor's approval of the way in which the Police at Diamond Harbour conducted themselves during the late crisis.

2. The conduct of Baboo Hem Chunder Kerr, Deputy Magistrate in charge of the Sub-Division of Diamond Harbour, in thinking more of his own ease and comfort than of the fearful sufferings of his fellow-countrymen, especially those who were under his peculiar charge, is most discreditable, and his culpability is increased by the fact that at the time of the Cyclone he was absent from his Sub-Division without the permission of the Magistrate. The Lieutenant Governor has grave doubts whether an Officer so lamentably deficient in every quality necessary for the efficient discharge of a Magistrate's duties, should be retained in the sub-executive service. In consideration, however, of the Baboo's previous services, the Lieutenant Governor is disposed to give him another trial; but he is reduced from this date to the fifth grade of the subordinate executive service, and is transferred to the Sub-Division of Gurbetta.

3. I am to convey His Honor's approval of the arrangements made by you for the clearance of the tanks and drains in the Suburbs as well as in the interior, and for the proper distribution of the funds and supplies placed at your disposal by the Relief Committee. I am at

* The Reverend C. Driberg.
Baboo Degumber Mitter.
The Reverend W. Harrison.
" G Kerry.
Mr. Hugh Fraser.

the same time to request that you will be good enough to thank, in the name of Government, the gentlemen* who have so humanely volunteered to assist in distributing

the relief afforded by public subscription. The thanks of Government should also be conveyed to Mr. Beaufort, the Judge of the district, for the voluntary offer of his services.

4. The original enclosures which accompanied your letter under reply are herewith returned.

Memorandum from C. F. CARNAC, Esq., Inspector General of Police, Lower Provinces, to Secy. to Govt. of Bengal,—(dated 10th November 1864.)

I forward for your perusal and that of the Lieutenant Governor a very capital and interesting report of King at Howrah regarding the loss of life and property consequent upon the Cyclone in Howrah Town and District. I am having a detailed Statement of the effects of the Cyclone in the several districts wherein it raged, drawn up by C. Baker, and when ready I will submit it for the information of Government.

Memorandum from R. W. KING, Esq., District Supdt. of Police, Howrah, to the Personal Assistant to the Inspector General of Police, Lower Provinces,—(No. 529, dated 5th November 1864.)

In compliance with the instructions contained in the Personal Assistant's letter No. 3868 of the 18th ultimo, the undersigned herewith forwards his reports on the loss of life and property in the district of Howrah caused by the late Cyclone.

2. The Magistrate desired that one report should be forwarded for the Town and Suburbs of Howrah itself, and a second for the District.

From R. W. KING, Esq., District Supdt. of Police, to Magistrate of Howrah,—(No. 517, dated 26th October 1864.)

In accordance with your instructions I have the honor to forward herewith a Tabular Statement (No. 1) showing the loss of life and property within the Town and Suburbs of Howrah caused by the late Cyclone.

2. As you will observe, the loss of life is far less than we at first were led to suppose. The number of houses appears very great, but when we consider the slight materials of which most of them were

composed, many being totally unfitted to stand against a moderate gale, and put up at the expense of a few Rupees, the loss is not after all so serious.

3. In the column headed "computed loss of property" I have taken the statements of the sufferers themselves, which no doubt are grossly exaggerated. About one-half, exclusive of the Railway buildings, would, I think, be a fair approximation to the truth.

4. The loss in cattle also has not been nearly so heavy as we might have expected ; fortunately the Town and Suburbs did not suffer from the storm wave, which proved so disastrous in its effects on the southern part of the district.

5. The fruit trees and gardens have suffered greatly, indeed hardly any trees are left ; this, I fear, will be severely felt by the ryots, and more particularly by the market gardeners in the direction of Bally, who were dependant on their orchards for a livelihood.

6. The filthy and unwholesome state of the tanks almost throughout the town, caused by the immense quantity of rubbish blown into them, as well as by the number of trees which after being blown down are now rotting in the water, requires most serious attention, and will, if not speedily removed, most probably be productive of great sickness. As you are aware, nearly all the fish in the tanks have died from this cause, which alone speaks volumes for the fitness or otherwise of the water for the use of man. I shall have occasion in my next report to bring this subject more prominently to your notice.

7. The public thoroughfares, with the exception of those in the neighbourhood of Bishop's College, are now cleared sufficiently for the public traffic. The communication between Howrah and Seebpore was completely cut off after the Cyclone in consequence of the number of trees thrown across. We commenced, with the help of the ryots, clearing a passage as soon as the wind moderated on the evening of the 5th, and but for the stumps of the largest trees and the debris of the walls which were blown down, the roads are restored to their former state.

8. I do not hear many complaints from the poorer class of inhabitants as to the want of means of subsistence, with the exception of the want of wholesome drinking water. Firewood and fish are to be had almost for nothing ; the latter is collected from the tanks above mentioned, so cannot be very wholesome. Rice is a little dearer now than before the Cyclone occurred, but the price of labor has risen enormously.

orders on the subject from yourself); but in spite of their exertions, I am satisfied that a vast amount has been taken and concealed by the ryots, many of whom, it is said, have, far from being sufferers by the Cyclone, become suddenly wealthy. We shall possibly, in the course of time, recover some portion of this, but the greater part has, I fear, been made away with.

8. I could not help being struck with the very healthy appearance of the in-coming rice crop. I went through a large extent of country, and with the exception of a few places which had been swept by the water, it appeared as though no storm had ever passed over. In spite of what the Buneahs and grain-dealers choose to say relative to a scarcity for the coming year, I do not believe that, with the exception of the Shampore Division, and a small portion of Ooloobariah, any real damage has occurred to the crop.

9. The loss of cattle is heavy, but many of them were brought down from Midnapore and other districts to the Calcutta market, consequently the loss does not fall so heavily on the ryots of this district. I noticed, when travelling through the canal between the Hooghly and the Damoodah Rivers, that on both sides the country was teeming with cattle.

10. The greatest difficulty which I foresee, and one with which we are almost powerless to contend, will be the want of good water. Nearly all the tanks being filled with the trees, leaves, &c., which were driven into them by the force of the wind, the water has become putrid, and as the ryots will not exert themselves to clear away these nuisances, I fear that sickness will arise from this cause. I have ordered the Police at each of the Stations to clear at least one tank for their own use. In the southern parts of the district the salt water has, for the present, I fear, destroyed the tanks near the river banks; of course it will require time before it can again become fit for the use of man.

11. Perhaps it may not be out of place here to call your attention to the great want of good drinking water which always exists at Ooloo-bariah. It is a populous and increasing village, and before the Cyclone, there was traffic enough to introduce four Steamers to run to and from Calcutta daily. The bazar, &c., belongs to the Andool Rajah, but judging by what he has done for his ryots during the late calamity, I fear that there is but little hope of any assistance from him. A large pukka tank would be a very great boon to the inhabitants and travellers.

12. The ryots complain bitterly of the loss of their fruit trees, and this, I fear, will in reality prove to them a very serious misfortune,

and one which will be felt throughout the district in the ensuing year; the cocoanut trees have, however, in most places withstood the violence of the wind. It will now be all the more necessary for the Zemindars to exert themselves and to assist the ryots by distributing fresh trees and plants throughout their Zemindarees.

13. I beg to state in conclusion that I believe that the Divisional Returns of loss herewith forwarded are tolerably correct, with the exception of Shampore. I do not, from my knowledge of that Division, think that there even were in it the amount of cattle said to have been destroyed. As you are aware, the soil is very barren and saliferous, consequently there is but little food for their sustenance. I think it also very probable that many of the ryots who are returned as dead may have fled to other districts. The loss shown under the heading "computed loss of property," I have already noticed in my former report on Howrah itself as being, in my opinion, untrustworthy.

14. You will observe that the Return forwarded with my letter No. 517 of the 26th ultimo, is included in the present Tabular Statement, which shows the total loss caused by the Cyclone throughout the whole District of Howrah.

No. 2.

Tabular Statement showing the probable value of the unclaimed property seized in the Town and Suburbs of Howrah after the late Cyclone.

Nature and quantity of property.	Probable value.	TOTAL.
<i>Howrah.</i>	Rs. As. P.	Rs. As. P.
65 Bales of cotton ...	6,500 0 0	
13 Bales of jute ...	117 0 0	
25 Bundles of tobacco ...	50 0 0	
2 Bundles of pepper ...	20 0 0	
Wood and planks ...	10 0 0	
100 Maunds of Salt ...	500 0 0	
		7,197 0 0

Tabular Statement showing the probable value, &c.—continued.

Nature and quantity of property.	Probable value.			TOTAL.		
	Rs.	As.	P.	Rs.	As.	P.
<i>Gollabarry.</i>						
200 Bales of jute ...	1,800	0	0			
146 Packages of pans ...	450	0	0			
83 Bales of pepper ...	700	0	0			
18 Bales of gunny ...	400	0	0			
18 Bales of cotton thâns of different descriptions ...	6,000	0	0			
19 Cases of brass utensils (lotas, &c.) ...	760	0	0			
21 Cases of cocoanut oil ...	504	0	0			
4 Barrels of rum ...	320	0	0			
9 Bags of cotton thread ...	500	0	0			
8 Packages of hatchets ...	100	0	0			
42 Bags of betel-nut ...	315	0	0			
24 Ingots of spelter ...	150	0	0			
24 Bottles of vinegar ...	12	0	0			
1 Box of earthenware ...	40	0	0			
2 Cans of paint oil ...	24	0	0			
1 Box containing superfine broad cloths ...	1,000	0	0			
1 Box containing glass beads ...	300	0	0			
86 Bundles of sheet iron ...	1,000	0	0			
2 Boxes containing China crackers ...	400	0	0			
129 Thâns of silk ...	1,200	0	0			
Timbers, boats, bamboos, &c. ...	700	0	0			
Sandal wood ...	1,000	0	0			
13 Iron rods, &c. ...	1,000	0	0			
Serampore paper ...	600	0	0			
				19,275	0	0
<i>Seebpore.</i>						
13 Bags of black pepper ...	156	0	0			
46 Cases of oil ...	1,104	0	0			
656 Bags of jute ...	6,560	0	0			
1 Bundle of Native wearing apparel ...	5	0	0			
321 Bags of betel-nut ...	2,401	8	0			
3 Maunds of old coir rope ...	5	0	0			
1 Ship's buoy ...	5	0	0			

Tabular Statement showing the probable value, &c.—continued.

Nature and quantity of property.	Probable value.	TOTAL.
	Rs. As. P.	Rs. As. P.
3 Empty wooden boxes ...	6 0 0	
1 Box locked, contents unknown ...	...
Cash Rupees ...	86 1 9	
175 Bags of pepper ...	1,750 0 0	
350 Bags of rice ...	2,100 0 0	
105 Bales of cotton ...	14,175 0 0	
		28,353 9 9
<i>Bally.</i>		
2 Broken wooden chests ...	3 0 0	
1,008 Bales of jute ...	9,072 0 0	
25 Iron nails ...	0 12 0	
7 Bags of linseed ...	25 0 0	
2 Bags of castor seed ...	6 0 0	
1 Pair of wooden doors ...	3 0 0	
2 Iron chests ...	60 0 0	
2 Bags of pepper ...	10 0 0	
9 Masts of Ship ...	200 0 0	
100 Pieces of sal wood ...	1,200 0 0	
Red powder ...	200 0 0	
4 Iron anchors ...	8 0 0	
26 Bundles of iron bars ...	35 0 0	
1 Bag of long pepper ...	10 0 0	
1 „ of dry ginger ...	50 0 0	
4 Bundles of steel ...	150 0 0	
10 Seers of nut ...	2 8 0	
73 Gunny bags ...	25 0 0	
5 Boats ...	1,000 0 0	
4 Seers of tobacco ...	1 0 0	
Broken planks of boats ...	20 0 0	
40 Masts of soondree wood ...	200 0 0	
3 Pieces of teak wood ...	125 0 0	
1 Maund and fifteen seers of pepper ...	7 0 0	
1 Helm ...	2 0 0	
1 English dog ...	.....
2 Bales of cotton ...	250 0 0	
		12,665 4 0
Total ...	.....	67,490 13 9

HOWRAH,
The 26th October 1864. }

R. W. KING,
Dist. Supdt. of Police, Howrah.

*Tabular Statement showing loss of life and destruction of property in the District of Howrah, caused by the
Cyclone of the 5th October 1864.*

Names of Police Stations.	NUMBER OF PER- SONS KILLED AND DROWNED.			Number of Cattle killed and drowned.	NUMBER OF HOUSES DESTROYED.		Computed loss of property.	REMARKS.
	Men.	Women.	Children.		Puoka.	Kutcha.		
Seebpore	2	...	...	.....	50	2,775	Rs. 70,000	0
Howrah	3	...	...	8	47	1,723	2,22,900	0
Gollabarry	5	...	...	50	50	5,000	1,00,000	0
Bally	...	...	...	12	5	5,262	94,611	0
Doomjor	8	4	1	250	23	35,114	13,92,897	0
Juggthbullpore	3	2	..	176	83	7,094	4,83,947	0
Amptah	17	6	9	455	28	24,678	5,57,021	0
Bagnan	3	3	...	72	2	25,000	6,54,721	0
Shampore	385	497	605	9,307	11	24,641	3,70,709	0
Ootoobariah	179	131	115	2,432	17	18,871	22,03,725	0
Total	603	643	730	12,762	316	1,50,158	60,49,881	0

The "computed loss of property" is taken from the statements of the sufferers themselves. I do not consider it trustworthy, and should think that one-half would quite cover it. The loss in fruit trees, pan-kies, vegetable crops, &c., which is not shown in any column of this Return, has to be taken into consideration.

HOWRAH, }
The 1st November 1864. }
R. W. KING,
District Supdt. of Police, Howrah.

No. 1.

Tabular Statement showing loss of life and destruction of property in the Town of Howrah caused by the Cyclone of the 5th October 1864.

NAMES OF POLICE STA- TIONS.	NUMBER OF PERSONS KILLED AND DROWNED.			Number of Cal- the killed and drowned.	NUMBER OF HOUSES DES- TROYED.		Computed loss of property.	REMARKS.
	Men.	Women.	Children.		Pucka.	Kutchra.		
							Rs. As. P.	
Seebpore ...	2	.....	.....	0	50	2,775	70,000 0 0	
Howrah ...	3	.....	.....	8	47	1,723	2,22,900 0 0	
Gollabarry ..	5	.....	.....	50	50	5,000	1,00,000 0 0	
Bally	0	.....	.....	12	5	5,262	94,611 0 0	
Total ...	10	.....	.....	70	152	14,760	4,87,511 0 0	

R. W. KING,
District Supdt. of Police.

From H. L. DAMPIER, Esq., Commr. of the Nuddea Division, to Secy.
to Govt. of Bengal,—(No. 253, dated 18th November 1864.)

I have the honor to report as follow, for the information of His Honor the Lieutenant Governor, the proceedings of Mr. McNeile, from 23rd October to 16th instant, on his expedition to grant relief to the villages which have suffered most by the Cyclone of the 5th ultimo.

2. Mr. McNeile started on the *Teesta* on the morning of 23rd October with the stores noted in margin, and with eighteen distributing Gomashtahs.

3. The provisions which Mr. McNeile had taken on the *Teesta* were distributed to the following places:—

Rice 1,080 Maunds.
Dhall 227 "
Parched rice 80 "
Salt 80 "
Chillies 15 "
Tobacco 8 "
Blankets 750 in No.
Cotton cloth ... 2,000 yards.
Cooking pots ... 800 (about.)
Hookas 100 "

Moyapore.

Nuldaree.

Fulta.

Noorpore.

Diamond Harbour.

Culpee.

Rangafulla.

Dhaja.

Fort Morington.

Paroolpara.

Kookrahattee.

sending in their reports, that of the Magistrate of Midnapore having been received as late as yesterday, and that of Howrah not having yet come to hand.

2. As Mr. Junior Secretary Bayley's Memorandum No. 4528 of the 27th October, this day received, indicates that the Magistrate of Howrah has been in direct communication with the Government, I deem it altogether unnecessary to postpone my reply until the receipt by me of that Officers' report of the injury found to exist in the interior of his district, and will commence by alluding to the several districts in succession, taking first the district most southern, where the storm was felt the most severely.

3. The direction of the storm and the time it commenced, and the reading of the barometer in several quarters, have already been reported to Government by other Officers of Government, my report, therefore, will be confined solely to the effects of the gale as far as they have been made known and collected up to date.

4. MIDNAPORE.—This district, as was to be expected from its exposed situation, has suffered most from the storm not only from the tremendous force of the wind, but also from the sudden and unusual incursion of the sea, commonly known as the storm wave, which submerged the sea coast, deluged the country for several miles, and swept away houses, men, and cattle. The accounts from the district show that the loss of human life has been very great. In some parts the loss was estimated at three-fourths, in others at five-eighths of the population; but these statements must be received with much caution, as we have as yet no means of testing their accuracy. Apart from the innate tendency of Natives to exaggeration, the Landholders believe it to be their interest to magnify their losses. The Magistrate, Mr. Smith, however, writing from the Tumlook quarter, shortly after the gale, reports "that the storm wave rose over the embankments, and the loss of lives, both of men and animals, has been extreme, the living being unable to dispose of the dead." The crops, he likewise states, have been apparently considerably injured in the Pergunnahs near the sea coast.

5. The Salt Golahs at Narainpore have been materially injured; the tidal wave rushed over the embankments, and, owing to this, as well as to the rain which fell during the storm, "the stock of salt" has been greatly reduced, according to the Superintendent's estimate, from two lakhs to seventy-five thousand maunds, the Government loss thereby in cost of manufacture being about a lakh of Rupees.

6. In Tumlook the Bazar is said to be a mass of ruins. The Deputy Collector's Cutcherry and house have been unroofed and rendered uninhabitable. The School and Hospital have been injured in a similar way. In Mysadul the crops in the interior had suffered. The reports of the Executive Engineers to their own Department, as promised by the Superintending Engineer, Presidency Circle, in his letter No. 2971 of 19th October, to the Chief Engineer, will afford accurate information regarding the state of the embankments, but on a rough estimate, about one-fourth to one-third of the earth-works have been destroyed, and some of the sluices have been injured or thrown down.

7. The Russoolpore Golahs are reported as destroyed, but there has been no material loss of salt. The embankments from thence to Kedgeree have suffered seriously. There are several breaches, and the line of embankments have been greatly injured. At Cowcolly Lighthouse the water-line traced on the plaster of the wall was found by the Executive Engineer to be 13 feet from the ground, i. e., 6 feet 4 inches above the crest of the Hooghly Dyke. It was at Kedgeree that the Post Master and Honorary Magistrate Mr. Botelho perished with his family. The house is reported as having been entirely washed away. The Telegraph Office is seriously injured. The village itself and the Police Station have been washed away. The Police deserted their posts after the inundation had subsided, leaving the country where their presence was most required. None of the record have been recovered.

8. The crops have been injured, but the extent of the injury cannot yet be ascertained. They are still looking green, though in some places the Collector remarks that "they look yellow and of a darker color than natural." It is estimated that the crop will be about half that of last season, i. e., a beegah of paddy will produce just half what it would have yielded had there been no gale, but no correct conclusion on this point can be drawn for some weeks to come. About Baloooghatta the Collector reports that "the crops are looking very impoverished, and the outturn will in all probability be not more than a fourth of an ordinary harvest." In Doro Doomnan, which, from its peculiar situation, suffered most severely, the ryots pleaded earnestly "for remission of rent and assistance in the way of food; the latter has been afforded in considerable quantities by the relief distributing depôts. The loss of life, both human and animal, was at first estimated at ten-sixteenths." The ryots have lost not only their crop, but their houses and property.

As the Pergunnah will, at an early date, come again under settlement, the Collector remarks whether it would not be for our own interest to allow such remission as would enable the tenants to procure cattle and commence cultivation.

9. The Magistrate reports that most of the roads and bridges have been greatly damaged and injured. The work on the roads, irrigation works, and embankments, "will occupy all available labor during the next two years," and the Magistrate recommends that Government should at once undertake the repairs. Labor will doubtless be the best and most effectual mode of administering relief to the people, and would enable them to support themselves and free them from a feeling of dependence upon charity.

10. The Magistrate of Midnapore and myself have placed ourselves in communication with the Cyclone Relief Fund Committee, and also with Mr. D. J. McNeile, whose timely and judicious appointment has been of great service to the people in establishing distribution depôts along the right bank of the river between Oolobariah and the Russoolpore River. Two River Steamers have been placed under his orders to convey food and clothing, and the relief afforded has been not only great, but judiciously administered. The reports of this Officer's proceedings has been sent to the Commissioner of the Nuddea Division, and need not to be alluded to by me in this place.

11. **HOWRAH.**—In the *Town* of Howrah the loss of life is reported by the Police to be only ten, but this does not include those who were either drowned or crushed to death in the wrecks of ships and large boats along the banks of the river. The number of houses blown down and otherwise damaged is very large; in fact, few of the masonry buildings escaped injury, and several were blown down. The greatest loss has been amongst the fruit trees and gardens; in fact, the gardens in the Howrah District supplied a large share of the fruit sold in the Calcutta markets, and the loss to property in this respect has been very great; but the owners are generally wealthy, and the present loss is merely a temporary check to their annual income and profits. A mass of property from wrecks of boats and ships found floating on the river and along the banks of the river has been collected. The Magistrate estimates their value at Rs. 67,000. A notice has been published in the *Exchange Gazette*, calling on the public having claims on any portion of the property to appear. Some claims have been made, which are under investigation.

12. The greatest amount of injury and distress in the interior, as at present ascertained, is mainly confined to the southern part of the Ooloobariah and Shampore Thannahs, or what is more generally known as the Pergunnah of Mundleghat between the Damoodar and Roopnarain Rivers. Baboo Heeraloll Seal is the largest proprietor, and has done much towards the relief of the distressed. In the more immediate neighbourhood of Ooloobariah the Rajah of Ondool is the principal proprietor, but I have been unable to ascertain that this gentleman has done anything in the matter of relief. The Magistrate, Mr. Craster, has placed himself in direct communication with the Secretary, Cyclone Relief Fund, and the District Superintendent, Mr. King, has proceeded throughout the affected parts; but, as I above stated, in the absence of their report, I am unable to give the results of their proceedings.

13. I would mention that the chief want appears to have been that of fresh water, the tanks on the river side having been injured by salt water, and those more inland from the falling of trees into them. The steps first taken by the Relief Committee in this part seem to have been well calculated to afford relief, and have, I understand, been carried out in a more extended scale of operations.

14. **HOOGHLY.**—The effects of the gale were felt throughout the district, but chiefly to the south and east. The loss of life registered by the Police is 112; but the Magistrate believes that many deaths have not been reported. The Thannahs which have suffered most are those of Bullagore and Serampore. A great number of Native huts have been levelled with the ground. Many fruit trees have been completely destroyed. To form an idea of the loss of trees, the Magistrate reports that 325 trees have been uprooted within a distance of two miles on the Grand Trunk Road. The sugar-cane crop has suffered greatly, only two-thirds of the average produce being expected to be realized. Little or no damage has been done to the rice crop. The jute crop, which is very extensive in this district, has fortunately been cut and carried away. From the quantity of leaves that have fallen into the tanks, the water in very many of them has been discolored and rendered useless. The Magistrate has called the attention of the Landholders to adopt means to clear the tanks, the result of which has not been reported. The roads in the district have been much injured, and additional funds to those hitherto allotted for their repair will be required. The destruction of trees in the villages in which the epidemic has been so destructive to human life will, I believe, be beneficial and have the effect of making in roads into the jungle, and thus staying the ravages

of fever. The attention of the Magistrate will be directed specially to this subject and to the employment of laborers in clearing the dense jungle described in Dr. Elliot's Report.

15. BURDWAN.—The Magistrate reports that the gale did but little damage in the district. The roads and public buldings have not been injured. At Culna a number of boats were wrecked on the river and necessarily much valuable property lost.

16. At Burdwan itself the storm continued with little variation in one direction (north by north-east), and without the sudden gusts of wind which proved so destructive in the parts more south. From the state of the country along the line of Railway, the violence of the Cyclone appears to have commenced at Pundooa and continued southward.

17. BEERBHOOM.—The Magistrate states that the storm was not any thing unusual; no houses have been injured, and little or no damage occurred.

18. BANCOORAH.—In this district no injury was caused. At Raneegunge a strong wind prevailed, commencing about mid-day, but not sufficiently powerful to stop the despatch of the ordinary daily Train.

19. I must apologize for the delay that has been occasioned in submitting this report, which, as stated at the commencement, has been occasioned by the absence of the Returns of the local Officers. Mr. Smith, the Magistrate of Midnapore, has been throughout the Divisions of Hidgelee and Tumlook and inspected all the affected parts, but, owing to want of communication and great difficulties encountered by him in crossing the channels along the eastern banks, as well as the usual delay that occurs in communication between Midnapore and Burdwan, the delay has been inevitable.

From the HON'BLE A. EDEN, Secy. to Govt. of Bengal, to Commr. of the Burdwan Division,—(No. 5284, dated 26th November 1864.)

The Lieutenant Governor having had before him your letter No. 160, dated the 6th instant, desires me in reply to state that he considers the explanation given in your 2nd paragraph of the delay in reporting on the effects of the Cyclone in your Division to be very insufficient. You should have made yourself acquainted with what the Magistrate of Howrah was doing, and should not have waited for a month until informed incidentally by the Government that the Magistrate had reported direct on the subject.

2. Paragraphs 4 and 8 of your letter under acknowledgment, regarding the loss of life in Midnapore and Tumlook, are very indefinite. No estimate is given of the *number* of lives lost. To say that a certain proportion of the population has been destroyed is a very imperfect statement, since the number of the population itself is not stated; nor are the area and number of villages to which the statement refers mentioned. I am to request that you will be so good as to forward the Magistrate's Report and to furnish a more detailed account of the number of villages and the extent of country injured by the storm, and of the loss of life and destruction of property, especially of crops, in each village. You are also requested to submit through the Board of Revenue any proposal you may have to make as to remission of rents in Doro Doonun. You ought not to have submitted a casual remark of the Collector on this head, without, at the same time, giving an opinion yourself.

3. You are requested to procure from the Magistrate and submit to Government a more detailed account of the conduct of the Police in deserting their posts when their presence was necessary. You do not state what part the superior Officers of Police took on the occasion, and how far they are implicated in the general charge you have brought against the Police in your paragraph 7.

4. The Lieutenant Governor is of opinion that some more definite suggestion should have been made as to the employment of the people on the roads in Midnapore than that contained in your 9th paragraph, and you should explain the extent and mode in which it is thought expedient that the Government should give assistance of the kind indicated.

5. I am also to request the submission, in fuller detail, of a Report showing what measures were taken for the relief of the people, and for saving life and property by the Local Officers before Mr. McNeile's appointment. Your Report contains no account of this or of any instructions given by you for the same object.

6. In paragraph 13 you offer no suggestion in regard to the possible means of supplying the people with fresh water or of enabling them to supply themselves. I am to request that you will have the goodness to rectify this omission, and that Mr. McNeile's proceedings may be reported in detail.

7. In reference to your 19th paragraph I am to repeat that the reasons assigned by you for the delay in submitting the Report are, in the Lieutenant Governor's opinion, far from sufficient. His Honor does not understand what is meant by the expression in your concluding

paragraph of "the usual delay that occurs in communication between Midnapore and Burdwan," as the post does not take more than two days.

8. It is probable, His Honor observes, that you may have taken active measures to collect information, and to urge your subordinates, especially those in the Districts of Midnapore and Howrah, to an active performance of their duty in this emergency, but there is no evidence in your report to warrant such a presumption, and this omission should, therefore, be supplied if it exists. The Magistrate of Midnapore appears to have visited the distressed parts of his district as soon as possible, but of the measures adopted by him and by the other Officers, Administrative and Police, no mention whatever is made.

From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to Secy. to Board of Revenue, Lower Provinces,—(No. 5285, dated 26th November 1864.)

I am directed to forward the accompanying extract, paragraphs 5, 6, and 7, of a letter from Commissioner of Burdwan, No. 160, dated the 6th instant, and to request that the Board will be so good as to submit, for the Lieutenant Governor's information, a report in detail on the loss of salt, &c., at the different depôts situated within the jurisdiction of the Burdwan Division, and also at those of the Cuttack Division, during the Cyclone.

From V. H. SCHALCH, Esq., Offg. Commr. of Police, Calcutta, to Secy. to Govt. of Bengal,—(No. 1287, dated 17th October 1864.)

I have the honor to submit the following remarks for the information of His Honor the Lieutenant Governor of Bengal, in reply to your letter No. 4130 T of 11th instant.

2. The Lieutenant Governor has, through the medium of the newspapers, been made so fully acquainted with the effects of the storm in the European portion of the town, that I can add nothing worthy of notice. It is sufficient to say that although much injury was caused to houses and compounds by the violence of the gale, and several people were killed and received injuries by the partial falling of houses, as shown in the accompanying Return, the general effects were not so calamitous as might have been expected, either to life or property.

3. The northern or Native portion of the city suffered much less than would have been supposed. It is true that many houses were destroyed or partially so, but any thing like a general destruction of property and levelling of houses did not take place. In the Northern Police Division the bulk of the Native houses, which are built of mud and bamboo, were blown down, and in the Suburbs also all or nearly all the huts which are there of a more fragile description, amounting to many thousands, were blown to the ground.

4. They are now, I have seen, rapidly being re-built, chiefly with the old materials, and I have no reason to believe that any great distress exists amongst the late occupiers, or that any special measures of relief are necessary for their assistance.

5. The bulk of the people whose houses were blown down are laboring men; the demand for unskilled labor has been so great since the storm and the rates of labor so enhanced, a cooly getting from ten annas to one Rupee per diem, that I am justified in thinking this class of the people may now be in even a better position pecuniarily than before the hurricane.

6. I may add that the streets, both in the Native and European portion of the town, were clean on the day or second day after the storm, and even on the night of the day on which the storm took place, the streets were, in very few cases, entirely obstructed, and then so generally by the falling of trees. The Deputy Commissioner of Police on the night of the storm rode through the Chitpore Road to Baug Bazar, and states he could have easily driven his buggy through. Indeed, on the following morning, I drove through the same road and most of the principal and many of the lesser streets.

7. Just after the abatement of the hurricane, a fire broke out among the straw boats at Baug Bazar. The fire Engines were at once sent up and succeeded in preventing the fire from crossing the Chitpore Road, and it subsided after burning some straw boats and jute stored on the bank of the river, to the extent in value of some Rs. 40,000, but none of the Shipping caught fire.

8. It is impossible to overrate or exaggerate the dreadful loss of property that occurred on the river.

The enquiries of the Police enable me to state that the loss of life on the river was not so great as might have been expected and as was at first supposed to have occurred. Only three deaths have been up to this time reported or can be ascertained to have occurred. One, that of the

Captain of the *Azemias*, who was drowned while endeavouring to pass from the vessel to another ship, and two of apprentices, one on board the *Govindpore* and the other on board the *Aphrodia*.

9. A large portion of the Native boats were dashed to pieces on the shore, because most of them were brought alongside the banks before the increasing violence of the wind made the river dangerous. I do not think any large number of Natives were drowned, and the Police have received no reports of any such occurrences.

10. The River Police Boats and Hulks and the Ferash Establishment Boats have all been destroyed, and we have not one of the former serviceable, but there was no loss of life in the Force on the river.

11. I shall report more fully on the subject hereafter.

12. I suggested that the Committee of the Sailors' Home should be convened. This was done, and no time was lost in devising means for the relief of the ship-wrecked Sailors, who have been housed and well cared for from the first. The great demand for labor on board the damaged ships has enabled these men, in many instances, to make their own terms. They have in many cases been receiving as much as Rs. 5 per diem.

13. Fifty Sailors were taken on as additional Constables after the storm, and have done good service in protecting and collecting wrecked property on the Strand, and preventing the plunder of wrecks cast on shore.

14. As soon as the present demand for labor ceases, some steps must be taken to send home the Sailors who have lost their ships. This is a subject to which I will revert on a future occasion when more reliable information can be obtained of the number of Seamen thrown out of employ.

15. The Strand bank was much obstructed by cargo and cargo boats washed ashore. Much of this became very offensive from exposure to the sun when damp.

16. Two hundred coolies were employed working in gangs under the Police and succeeded in clearing the bank as far as can be done. It will probably be necessary to blow up the wrecks at present lying all along the bank.

17. I may mention, with reference to your letter No. 4184 T of 12th instant, that I have already ordered a reward of Rs. 100, which has been given to the Sailor James Cleary, who swam out at the risk of his life with a rope to the ship-wrecked crew of the *Govindpore*,

by which means they were all saved, except the apprentice who had previously died, and whose body was recovered on the following day. The Deputy Commissioner has also written to procure him the Royal Humane Society's Medal.

18. First Class Inspector McDonell, who had been sent to Diamond Harbour by the Deputy Commissioner to apprehend a criminal in a case of much importance, was drowned in the storm wave; his remains were found in the fields five miles from Diamond Harbour by two Inspectors sent down for the purpose of tracing him. He was an excellent Officer and is a great loss to the Force, and a special report regarding a provision for his widow will shortly be submitted.

19. I am engaged in company with the Deputy Commissioner in visiting the several Police Stations in the town and suburbs, and will, on completion of our inspection, submit a report regarding their condition. In the mean time I have directed the sheds used for the accommodation of the Native Policemen to be put up again where blown down.

20. The effects of the gale within the town and suburbs has been almost entirely restricted to the destruction of huts and trees, and though the reconstruction of them may press upon the poorer class, the case does not seem one calling for any general measure of relief. Some considerable sum of money has been expended in entertaining an additional Force and on the other measures above detailed, a portion of which will be met from the additional Constables' Fund, and the greater portion of the remainder by salvage on goods rescued by the Police, and by the sale of unclaimed property.

21. In conclusion I beg to bring to the notice of His Honor the Lieutenant Governor of Bengal the good conduct of the Police generally within the town, who have worked indefatigably, and to recommend the grant of a week's salary as a gratuity to all ranks of the Executive Police, from Superintendents downwards.

Statement of life and property destroyed in the Town and Suburbs of Calcutta, on the occasion of the Cyclone of the 5th October 1864.

Divisions.	EUROPEANS.				NATIVES.					
	Killed.	Wounded.	Pucka houses destroyed.	Pucka houses damaged.	Killed.	Wounded.	Pucka houses destroyed.	Pucka houses damaged.	Tiled and straw huts destroyed.	Tiled and straw huts damaged.
1st Division	...	...	...	...	CALCUTTA.		...	...	...	...
2nd "	1	1	1	80	5	6	2	120	849	2,500
3rd "	...	...	14	11	8	4	6	138	478	1,125
	...	...			3	2	14	.....	.....
1st Division	...	...	...	...	SUBURBS.		...	...	...	...
2nd "	...	...	...	100	13	2	62	11	12,441	
3rd "	1	...	...	36	9	None.	1	103	21,633	969
					9	1	2	14	5,302	
Total	2	1	15	177	47	15	87	386	40,698	4,594

CALCUTTA POLICE OFFICE,

V. H. SCHALCH,

The 17th October 1864.

Offg. Commissioner of Police.

From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to Commr. of Police, Calcutta,—(No. 4526, dated 27th October 1864.)

I am directed to acknowledge the receipt of your letter No. 1287, dated the 7th instant, reporting on the injury caused by the late Cyclone to life and property in the town and its suburbs.

2. In reply I am desired to state that the Lieutenant Governor approves of your proceedings, and I am to express His Honor's satisfaction at the good conduct of the Police and their praise-worthy exertions in saving life and property and in restoring order after the hurricane.

3. With reference to paragraph 14 of your letter I am to request that you will communicate with the Sailors' Home Committee in regard to the case of the Sailors whose vessels have been lost, and that you will report hereafter, for His Honor's information, what it may be necessary to do on the subject. The provisions of the Mercantile Marine Act are probably applicable to the case of men thrown out of employment by the loss of their vessels.

4. If there be any cases within the town or suburbs of Calcutta to which the funds at the disposal of the Cyclone Committee for the relief of those who are suffering from the effects of the hurricane may be legitimately applied, the Lieutenant Governor desires that you will bring them to the notice of the Committee, and give the Committee all the assistance in your power in dispensing relief where it may be required.

From LIBUT. COLONEL J. P. BEADLE, R. E., Secy. to Govt. of Bengal, in the P. W. Dept., to Secy. to Govt. of India, P. W. Dept., —(No. 4927, dated 19th October 1864.)

With reference to the accompanying copy of a letter from the Deputy Master Attendant in charge, No. 2378, dated the 17th instant, I am directed to report, for the orders of the Government of India, that Lieutenant Wallace, R. E., who had been relieved from duty with the Department of Public Works in Bengal, and who was on the point of leaving Calcutta for Roorkee, has been detained, the services of an Engineer Officer being indispensably necessary for the removal of wrecks from the bed of the Hooghly, and otherwise assisting the Garrison Engineer during the pressure caused by the late hurricane.

From CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal, in the P. W. Dept.,—(No. 2378, dated 17th October 1864.)

I have the honor to bring to the notice of His Honor the Lieutenant Governor of Bengal that the wreck of the Ship *Govindpore*, now lying off the Custom House Ghat, forms a dangerous obstruction to the navigation of the Port, and would suggest that measures be adopted to have her blown up.

From LIEUT. COLONEL J. P. BEADLE, R. E., Secy. to Govt. of Bengal, in the P. W. Dept. to Supdg. Engr., Presidency Circle,—(No. 5021, dated 21st October 1864.)

The Lieutenant Governor has issued instructions that measures should be at once taken for employing immediately on the repairs of the embankments in the Hidgelee, Midnapore, and Hooghly Districts, on ordinary wages, the whole of the population which may be in want of work and of food. The Executive Engineers should make it generally known that all such persons can obtain employment on the embankments in question in the neighbourhood of the sites of their villages.

2. It is an object to provide a ready means of earning a subsistence to the people suffering from the hurricane, and, although it would not be wise to pay them increased wages, there need not be the usual strict exaction *at first* of the amount of labour to be done for the day's wages, and all the people calling for work should be employed, including women and little children.

From LIEUT. COLONEL J. P. BEADLE, R. E., Secy. to Govt. of Bengal, in the P. W. Dept., to Offg. Supdg. Engr., South-Eastern Circle,—(No. 5022, dated 21st October 1864.)

The Lieutenant Governor has issued instructions that measures should be at once taken for employing, immediately on repairs of the embankments in the 24-Pergunnahs District, on ordinary wages, the whole of the population which may be in want of work and of food. The Executive Engineers should make it generally known that all such persons can obtain employment on the embankments in question in the neighbourhood of the sites of their villages.

2. It is an object to provide a ready means of earning a subsistence to the people suffering from the hurricane; and, although it would not be wise to pay them increased wages, there need not be the usual strict

exaction *at first* of the amount of labour to be done for the day's wages, and all the people calling for work should be employed, including women and little children.

From LIEUT. COLONEL J. P. BEADLE, R. E., Secy. to Govt. of Bengal, in the P. W. Dept., to Supdg. Engr. of the Presidency Circle,—(No. 5090, dated 25th October 1864.)

In continuation of my endorsement No. 4926, dated the 19th instant, I am directed to forward a copy of a letter from the Deputy Master Attendant, No. 2433, dated the 22nd instant, and to request that you will desire the Garrison Engineer of Fort William to adopt, in communication with the Marine Authorities, whatever measures may be required for the removal of wrecks which obstruct the navigation of the Hooghly River.

2. The expenses that may be incurred on this account will be debited to the Port Fund.

3. It will be seen from the accompanying copy of a letter No. 4927 of the 19th instant, to the Government of India, in the Public Works Department, that the services of Lieutenant Wallace have been retained for the above duty, and for otherwise aiding the Garrison Engineer at present.

From CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal, in the P. W. Dept.,—(No. 2433, dated 22nd October 1864.)

As the vessels marginally noted below Howrah Ghat are danger-

Vespasian .. }
Ville de St. Pierre .. } Below Howrah
Azemias .. } Ghat.
 Tug Steamer *Linnet* .. }

Tug Steamer *Satellite* off Colvin's Ghat, partly in the Channel.

Ship *Lady Franklin* off Prinsep's Ghat, on Sumatra Sand, on the edge of the Channel.

Lew Chew, on the edge of Goosery Sand.

ously obstructing and impeding the navigation of the Port, I have the honor to request the favor of your moving His Honor the Lieutenant Governor to issue the necessary instructions to have them blown up under Section 23 of Act XXII of 1855.

From LIEUT. COLONEL J. P. BEADLE, R. E., Secy. to Govt. of Bengal, in the P. W. Dept., to Secy. to Asiatic Society,—(No. 5254, dated 31st October 1864.

I am directed to forward a copy of a Note on the course and progress of the late hurricane, which has been drawn up by the Chief Engineer of Bengal.

2. The Lieutenant Governor is glad to learn that the Asiatic Society has taken steps to secure the preparation of a complete account of this hurricane; to further this object, the Master Attendant has been requested to furnish the Society with all the information on the subject collected in his Department. The Chief Engineer of Bengal will also make over to the Society, for perusal, the Departmental Reports received from various points descriptive of the occurrences observed during the period of the storm.

From LIEUT. COLONEL J. P. BEADLE, R. E., Secy. to Govt. of Bengal, in the P. W. Dept.,—(No. 5264, dated 2nd November 1864.)

Copy of the following, with the three letters from Lieutenant Colonel Fraser, and a Sketch, *in original*, forwarded to the Secretary to the Government of Bengal for consideration and orders.

2. The letter from the Government of India, in the Public Works Department, No. $\frac{6810}{916}$ of 19th August last, which is alluded to, has reference to a project for the construction of wet docks, &c., in this city proposed to be carried out by the "*Calcutta Wet Docks and Wharves Company Limited*," whose application on the subject is in consideration in this Department.

Proceedings of His Excellency the Govr. Genl. of India in Council, P. W. Dept.,—(No. 0985 C, dated 27th October 1864.)

Improvement of the conveniences of the Port of Calcutta.

Read the three following letters from the Superintendent of Lighthouses, on the subject of improving the conveniences of the Port of Calcutta by means of quays, jetties, tramways, and screw moorings:—

No. 220 C, dated 7th October 1864.

„ 221 C, „ 10th „ „

„ 222 C, „ 13th „ „

ORDER.—Ordered, that the foregoing papers be forwarded, in original, to the Government of Bengal for consideration, in connection with the general subject of the improvement of the Port of Calcutta, which

is before the Lieutenant Governor, (vide letter from the Government of India, in the Public Works Department, No. $\frac{6810}{918}$, dated 19th August 1864,) with the remark that Lieutenant Colonel Fraser's suggestions as to screw moorings have already been forwarded for the consideration of Government in the Home (Marine) Department.

Form LIEUT. COLONEL A. FRASER, R. E., Supdt. of Lighthouses, to Under Secy. to Govt. of India, P. W. Dept.,—(No. 220 C, dated 7th October 1864.)

I have long thought it highly desirable that the style of moorings used for mooring the vessels in the river off Calcutta might be advantageously and economically altered, but have considered it useless to propose anything which would entail an expensive change, while there was nothing to support views likely to cause such cost.

2. Observing, however, the fatal effects of the late (5th October) gale on the magnificent Shipping in this river, and estimating the cost at which the disasters must be repaired, it is well worth enquiry as to how the vessels generally *parted* from their moorings, and as to whether an improvement cannot be made in the method of such mooring by which the chances of safety to the ships may be much increased.

3. I do not *exactly* know the system upon which the Calcutta moorings are laid down, but it is probable that more efficient moorings on the screw system might be gradually substituted at one-tenth of the cost.

4. There can be, I think, no doubt of the superior holding power of screws over every other description of mooring. It was stated, at a discussion at the Institution of Civil Engineers in 1848 by Mr. Brooks, the Engineer of the Corporation of Newcastle-on-Tyne, that "the Corporation had purchased the right of putting down screw moorings in that river, and had carried the system out to a considerable extent. General benefit was experienced by the increased facilities afforded for the Shipping, and, on the occasion of a very heavy storm which occurred, when nearly a thousand ships were wind-bound in the river, and the greatest consternation prevailed, not a single mooring gave way, although they were all fearfully tried, and not ten pounds' worth of damage was done, whilst, in the neighbouring Port of Sunderland, injury was sustained to the extent, he believed, of nearly thirty thousand pounds." Supposing the moorings to be in fault, we might congratulate ourselves indeed, could the same thing have been said on the 5th of October 1864 of the moorings in Calcutta.

5. Screw moorings might possibly be objected to where there was any chance of a heavy jerking sea by which the hold in the ground might be loosened, but, in a river like that at Calcutta, where the strain is constant, I am of opinion that no mooring can equal them, whether for safety or economy of money and space. Captain Washington, R. E., wrote as follows to the Secretary of the Institution of Civil Engineers in 1848 :—" I have also seen the screw moorings laid down in the Clyde both at Glasgow and at Greenock, in the Humber and the Tyne, and in all places have heard them well spoken of ; those in the Tyne, I have reason to believe, have already saved some thousands of pounds' worth of Shipping from damage. As a Sailor fully alive to the value of good ground tackle, I strongly recommend their use in all harbours in which space is an object, and in what harbour is it not ?"

6. It is possible that such a hurricane as we had the day before yesterday may not occur again for many years, but it may occur again next year, and I think I have said enough at present to show that these would be use in enquiry. The enquiry would be almost confined to three simple questions ; *one at Home*,—" Do the advantages of the screw pile moorings laid down within the last twenty years justify their use out here in lieu of the present moorings?" *Two in Calcutta*,—" Did the fixtures to which the mooring chains were fastened move ?" or " Did the chains part?" If the former, screw moorings should be without a doubt substituted as soon as possible.

7. Bearing on the same subject, I should be very much inclined, on the score of economy and certainty, to recommend fixed screw pile beacons for marking the channels generally in this river in lieu of the expensive buoys and moorings now used.

8. And lastly, I would notice a difficulty that has been noticed a hundred times before, but which I have not yet seen any attempt to overcome, and that is the great want of facility in loading and unloading ships. Every one knows the cost and risk of the present mode, and now that so many hundreds of boats have been destroyed, the difficulty will be enhanced. I have heard the plan proposed of having floating piers like that at Liverpool, &c., &c., &c., but a good standing wharf will, for the purpose required, be better than any floating pier for the simple reason that the floating pier is always at the same distance below the deck of a ship, whereas a standing pier is only at that distance at the top of high water, so that in one case, where you have always to lift or lower through say twenty feet to load or unload a ship, in the other, you have

only to lift or lower through that distance at high water. Why not, therefore, build gradually a continuous screw pile wharf from Armenian Ghât down to the Dock-yard, with projections to the side of every tier of ships, and with a good tramway on the bank side. The expense would be comparatively small if built gradually on a general plan, and the returns on each one hundred feet done would probably pay in two years the next hundred feet. There is no doubt in my mind that this arrangement would wholly answer the purpose in view, while the small cost and early completion of any portion would bring in very large returns to complete

the remainder, and eventually to form a large
fund whereby a more permanent quay* might
possibly be built.

* Or Wet Docks, see P. S.
A. F.

P. S.—I am aware that Wet Docks have been proposed as a panacea for all evils likely to accrue to the Shipping in the river, but it is hard to see that, with ships well moored, and the banks well quayed, we shall not obtain nearly all the advantages of Wet Docks at an expense which will not put an “incubus” in the trade for generations. And the arrangement I have proposed (paragraph 8), both facile and speedy, while benefitting all, will, as it seems to me, produce a revenue which hereafter will enable the city to build the docks for such portion of the Shipping as may require it.

From LIEUT. COLONEL A. FRASER, R. E., Supdt. of Lighthouses, to Under Secy. to Govt. of India, P. W. Dept.,—(No. 221 C, dated 10th October 1864.)

In continuation of my letter No. 220 C, dated 8th October 1864, regarding screw moorings, screw pile beacons, and a screw pile wharf for the whole river frontage of Calcutta, I have the honor to state that, from the following calculations, it would seem to be worth the while of any Company or of the Municipality to undertake the wharf and probably the moorings too.

2. The cost of a screw pile wharf, four feet above high water mark, carried generally, say, to six feet of water at low water, with projections carried generally to eighteen feet of water at low water to the sides of vessels of ordinary tonnage, and such projections finished off with bridges for the deepest ships, would certainly not cost more than from £44 to £50 a foot of river bank. Say, for illustration, the frontage extended three miles or $5,280 \times 3 = 15,840$ feet, the total cost would be, say, $15,840 \times £50 = £792,000$, or say £800,000. Say, with the increased

facilities of discharging and loading a ship required to be fifteen days alongside, and, taking the extreme length of a ship at 300 feet, the wharf would take alongside $15,840 \times 300 =$ say fifty ships every fifteen days, or 100 ships per month. Assume 800 tons as the average tonnage of the ships, and we have $100 \times 12 \times 800 \times 2 = 1,920,000$ tons as the quantity of goods loaded and unloaded per annum. Considering the saving of time (which is money) and risk, I do not suppose that Rs. 2 per ton would be considered a heavy wharfage charge in comparison with the cost and risk of loading and unloading goods now incurred in boats. On this rough calculation, the wharf would bring in $19,20,000 \times 2 =$ Rs. 38,40,000 per annum as interest on the original outlay, and this is 48 per cent. Tolls on passengers, on goods landed from Inland Steamers and Native boats, which could all lie conveniently (without the chance of being crushed as at present) in 6 feet of water, in the bags between the projections to 18 feet of water, would far more than pay for repairs and maintenance.

3. The above calculations are more put forward to draw attention to the subject, and have no pretence to strict accuracy, though I do not think they will be found very far wrong. I have not time to go into the cost of the wharf more than I have done, but it is easily done by any Engineer, and the other calculations can be put right by any merchant.

4. As a part of the scheme, and as likely to be also remunerative, the tramway mentioned in my former letter should be formed running in the inner side of the wharf, but outside the ghâts from the Railway Station to the Government Dock-yard, the crossing at Tolly's Nullah being formed by a traversing bridge to allow of ingress and egress to boats, &c. Such a tramway would bring or take all goods from any part of the river bank, turn-tables being given opposite each projection to eighteen feet water. The wharf need in no way interfere with bathing ghâts.

5. If this plan were adopted, it would probably be more convenient that a double line of ships should be moored near the centre of the river, and moorings laid down along the wharf frontage for only a single line of vessels to load and unload. Loaded ships going to sea giving place to others, and four or five of the projections (to 18 feet of water) might be specially kept for sea-going steamers. Where perishable goods would be landed, the wharf would be covered in.

6. Supposing proper moorings be given, this plan would answer nearly all purposes of Wet Docks at probably a less expense without a doubt of its success, and with a certainty of quicker returns.

7. It would be best for the Municipality to undertake the work themselves. Half the work could be finished in three years, and the returns on the capital expended would enable the Municipality to get easily the remainder of the money, and eventually to devote the large returns which may reasonably be expected to other improvements. Fifteen lakhs a year for five years would complete the work, and for the cost of every portion finished ample interest would be secured. But the work should be commenced on a general place from the north, having eventually the entire river bank in view. And the tramway on the inside, and the screw moorings on the outside, should be carried south simultaneously with the wharf.

8. I may state, with reference to my former remarks on screw moorings (letter No. 220 C), that I see it stated that this system of mooring has been recently adopted by the Admiralty at Portsmouth and Holyhead ; that the Thames Conservators have had an extensive system of them laid down ; that they have been adopted in some of the principal harbours of the United Kingdom ; and that they were employed “ most satisfactorily ” by the late Sir William Cubitt in mooring the large landing stage in the Mersey, at Liverpool.

9. Having forty or fifty distinct landing places and loading wharf for heavy and light craft, for passengers and goods by steamers or ships, will also, as it seems to me, eliminate that element of dire confusion which now seems to disturb and obstruct the very important business in a large commercial city of loading and unloading ships at the river bank.

10. If the Government thought there was no impunity in so doing, I would suggest that a copy of this and my former letter No. 220 C be forwarded for opinion to the Chamber of Commerce.

NOTE.—From the Commercial Annual of 1864, I gather that the *external* trade of Bengal was as follows :—

		Vessels.	Tonnage.
Imports	...	1,376	917,102
Exports	...	1,279	882,166
Total	...	<u>2,655</u>	<u>1,799,268</u>

so that the calculations so far in the 2nd paragraph may well stand, for, though I have put down 1,920,000 tons as the amount of tonnage upon which wharf dues would be chargeable, more than the difference would probably be obtained upon tonnage landed and embarked in the *internal*

trade. I have not provided for a sufficient number of ships, for I have supposed only 1,200 ships to come alongside in the year, whereas the return shows 2,655 require to be accommodated; but I have averaged each ship at 300 feet long and of 800 tons, but ships of 300 feet length are the exception, not the average, and smaller vessels would not take half the time alongside: this is a mere matter of detail not affecting the general question.

The value of Imports in 1863-64 was	...	Rs.	16,60,62,614
„ „ Exports „ was	...	„	23,92,62,285
Total Rs.			<u>40,53,24,899</u>

and I have calculated Rs. 38,40,000 as the cost of putting the above value of exports safely and quickly on *board*, and the above value of imports safely and quickly in *land*, and this is nearly 1 per cent. on the total value. The question seems to be therefore—Can the merchant afford to pay for a safe, speedy, and efficient arrangement for loading and unloading his merchandize 1 per cent. instead of what he has to pay now for an unsafe, slow, and inefficient arrangement? And this is a question that the merchant can best answer.

From LIEUT. COLONEL A. FRASER, R. E., Supdt. of Lighthouses, to Under Secy. to Govt. of India, P. W. Dept.,—(No. 222 C, dated 13th October 1864.)

Having a Schedule of prices by Mr. Wells (who, I believe, contracted to build the Madras Pier) of some of the iron work required for a screw pile pier, and feeling that such arrangements as I proposed in my previous letters Nos. 220 C and 221 C will, if carried out, be of great benefit to the community of Calcutta, I do not hesitate to forward to you a rough Statement of the probable cost of properly accommodating ships (with a rough Sketch of what I mean) as a verification of the rate I gave in my letter No. 221 C per running foot of river bank, viz., £50.

2. I believe in this Statement of cost I have *fully* provided for everything, and on going more closely into it the result is more favorable than I at first thought.

3. From a more close, but still cursory view of the river bank, I do not think it will be necessary to run the general line of wharf beyond low water, as thence the bank drops very suddenly to deep water. I have

therefore combined the general wharf and the tramway, which, while not interfering (scarcely in any way) with existing arrangements, will give fifty-four feet more of strand road, and for nearly the same price (£800,000) as mentioned in my letter No. 221 C. I am able to provide

the means of putting goods on board ships from almost the doors of the godowns at (1) one per cent. on the value of the goods, while paying those who carry out the plan over (40) forty per cent. It is probable also that, in fixing the length of the projecting piers at 144 feet from low water, I have gone beyond what will actually be required, but I have done so with a view of being certainly on the safe side as regards cost.

4. The Government having allowed the Madras Pier to be built, which, though of considerable convenience, can scarcely ever pay, as no ship can go alongside, and therefore the cost of shipment into boats and landing from boats are not saved, I can scarcely suppose that they will not give consideration to a project which, as it seems to me on reasonable calculations, will certainly, if those calculations are *nearly* correct, re-pay itself in three years, while the piers are not exposed to any risk of destruction.

5. Besides the high percentage *directly* paid on this proposed outlay, it is perhaps scarcely necessary to point out the many ways it will pay *indirectly*, but I will mention one or two which are of importance. *First*,—it will set free perhaps some 20,000 people now employed in dinghees, cargo boats, in loading and unloading them, in loading and unloading and driving hackeries, and numbers of artificers employed in building and repairing these boats and carriages, and direct their labor towards other branches of industry, and thereby cheapen the labor market. In a highly civilized country it may doubtless be a matter of consideration whether a number of laborers should be thrown out of employment in any particular branch, but, in a country in a highly progressive state, it must be of great advantage to reduce labor by improvement in one branch, and direct it to improvement in another. *Second*,—it will probably reduce the time which vessels *need* to stay in this port from forty to twenty days. *Third*,—it will probably much reduce the Harbour Master's and River Police Establishments, and will certainly cause savings to the State in the Quarter Master General, Deputy Army Commissariat, Ordnance Commissariat, and Customs Commissariat, and finally the long line of well-lighted piers will add much to the appearance of the city and to the convenience and safety of its inhabitants and Shipping.

6. There are doubtless proper sections, &c., already taken of the river bank with longitudinal levels, but if not, now is the time to do it, while the river side is unencumbered with ships, with a view of laying down a precise plan and obtaining a precise estimate.

7. To those who would object to this screw pile scheme on the score of want of permanency, I would remark that it is the quickest way of accommodating the commerce of the port, as well as the quickest way of getting a return for the money expended. If the work were placed in the hands of a "River Trust," the money gained would give funds

at the rate of some 30 lakhs of Rupees per annum wherewith either to form a permanent inside tramway or a permanent outside quay-wall, while the screw pile platform would form the very best position from which to execute such works. The materials being ready, 300 feet of screw pile pier might be done per month, and every part done would bring immediate returns.

8. In conclusion, therefore, I say that the arrangements I have

sketched, *together* with proper screw moorings for the *entire* Shipping ever likely to be in the Port, could be carried out and laid down for, say in round numbers, one million sterling, and that they would bring in a

return of over 40 per cent. after the lapse of five years. The best plan to raise the money would be for a "River Trust" to raise the money in the market in instalments of £200,000 per annum for five years on Debentures at an interest of say 6 per cent., with a currency of eight, seven, six, five, and four years respectively, guaranteed on the Port dues, and re-payable at the option of the Trust at the expiration of those periods. In eight years then from the commencement of the work the "Trust" would be in a position to pay off its liabilities (taking into consideration returns in parts of the work intermediately finished), and have at its disposal, after deducting 10 per cent. for maintenance

and repair, a yearly sum of at least 30 lakhs of Rupees to take in hand (as in last paragraph) more permanent arrangements, while in the mean while it will have perfectly accommodated the Shipping and the commerce generally of the Port. I include a note of the probable ultimate cost of maintaining the pier and moorings with a Memorandum of the probable savings on present mode of shipping and landing goods to complete the subject.

See Note on establishment and maintenance and income accompanying.

NOTE.—The enclosed Statement only includes screw moorings for ships alongside the wharf in detail, and merely a lump sum for the other moorings.

See annexed Note on maintenance and repairs, &c.

9. I should mention that the distance apart at which I have placed the screws for moorings in the Sketch is subject to correction.

P. S.—Should this project be thought worthy of consideration by His Excellency the Viceroy, I would request that my previous letters, Nos. 220C and 221C, with this and its accompaniments, might be printed together as showing the entire plan proposed by me.

Statement of work to be done and cost to accompany Lieut. Colonel Fraser's letter No. 222C of the 13th October 1864.

The work to be done according to the accompanying Sketch is as follows :—

1. To build a facing wall along the whole left bank of the river where required, at about three-quarters tide from the Railway Station to the Government Dock-Yard, with masonry back projections opposite each pier to receive the two inch tie rods connecting the piles forming the piers.

2. To fill in behind this wall level with the top, which is to be four feet above high-water mark, spring T.

3. At fifteen feet from the face of this wall to run a line of piles six inch drain, serewed the ground with Mitchell's screws. This line of piles to be connected with the wall and with each other (except the wall connections opposite the piers, which will be of two inch iron,) by diagonal one and a half inch rod iron traces.

4. At twelve feet from the first row of piles a second row to run eleven feet with the last, and connected with each other and the first line in like manner.

5. At twelve feet from the second line a third row of piles connected in a similar manner.

6. At fifteen feet from the third line a fourth row of piles connected in a similar manner.

7. Commencing at a convenient spot near the Railway Station on left bank to run out at convenient intervals not exceeding 300 feet from centre to centre, screw pile piers averaging 144 feet long by forty-eight feet broad, consisting of piles eight inch drain of from thirty to fifty feet long with Mitchell's screws having (where necessary) the patent saw edges. Five lines of piles twelve feet apart, connected together longitudinally and transversely with two inch rod iron diagonal

braces, and the two outer bays further braced and shutted by T. iron braces at the level of low water. Each pier to be finished off with teak timber fender piles 12" × 12."

8. The heads of the piles to be arranged with iron cups to receive teak timber girders, over which teak joists, and the whole finished off with three inch planking one inch apart. Railings of four inch standard with three inch diagonal bracing foot and hand rail to be given; steps of open cast iron work to be given as per Sketch.

9. The inner half (seventy-two feet) of each pier to be covered in lightly with corrugated iron patched roofs for the protection of perishable goods, for Police Stations and Toll Collectors.

10. The piers and tramway to be lighted with gas, and pipes to be laid along the piers in connection with the Town water-supply (when in existence) for watering Ships.

11. Along the whole length of the centre bays of the piers and wharf a double line of tramway of the Indian Railway guage to be given. My calculation shows that 100 tons per diem will be loaded and unloaded at each pier, take each truck to carry on an average three tons, and to make six trips per diem, six up and six down, we shall require six (6) trucks to each pier, or 300 trucks for goods. Sidings to be given at convenient places. The tramway turn-tables to be given opposite each pier to turn the trucks into the piers. Standing and moveable cranes to be given at convenient places. It is well to have the tramways in the piers on the *inner* bags, while the moveable cranes run upon rails on the *outer* halves (seventy-two feet) of the piers to pick up all goods from boats, &c., as well as from Ships.

12. Between the piers, and simultaneously with their construction, screw moorings to be laid on the plan shown roughly in the Sketch.

Probable Cost of the above.

For Tramway 15,840 feet long \times 54 feet broad, four sets of 6 inch piles 15 feet apart longitudinally, at an average of 25 feet long each.			
4,224 piles \times 25 feet long each \times 66 (= weight in lbs. of a lineal foot) = 62,230 cwt., at 20s. per cwt., including screws	£62,230		
For fifty piers, averaging 144 feet long \times 48 feet broad, five rows of 8 inch drain piles 12 feet apart and of an average length of 40 feet— $60 \times 50 \times 40 \times 96$ (= weight in lbs. of a lineal foot) = 103,000 cwt., at 20s. per cwt., including screws	£103,000	...	It would probably be cheaper to give iron tubular girders altogether.
3,000 tons of pile caps, nuts, bolts, screws, and boxes, at £20 a ton	£60,000	...	
124,200 (lineal feet) \times $10\frac{1}{2}$ (weight of a lineal foot in lbs.) = 1,304,100 lbs. = 600 tons of 2 inch wrought iron rod, at £18 a ton	£10,800		
278,784—15 ————— = 929 tons of $1\frac{1}{2}$ inch rod iron, at £18 a ton	£16,722		
20			
50 Instruments for screwing down piles, at £250 each	£2,500		

Probable Cost of the above,—continued.

470 tons of Rails for tram and cranes at £10 per ton ...	£4,700	
300 trucks, at £30 each ...	£9,000	
100 moveable cranes, at £40 each ...	£4,000	
Gas lamp posts, corrugated iron roofing, steps, rope, chain, guy screws, sheers, &c., and a couple of Portable Engines for screwing piles	£10,000	
Teak timber platform .		
For tramway $15,840 \times 54 = 855,360$ square feet.		
For piers $50 \times 144 \times 48 = 345,600$ " "		
Total 1,200,960 " "		
at £15 per 100 feet ...	£180,135	
1,808 tons of fender piles 12 inch \times 12 inch at £6 per ton ...	£10,800	
500 tons of Sleepers for rails (longitudinal) at £6 per ton	£3,000.	
Total Timber from Moulmein ...	.....
		£198,935

This includes timber girders and joists, and though I have great faith in the useful resistance of timber to concussion. Iron may be cheaper.

950,4000 cubic feet of masonry in a wall, say $12 \times 5 \times 15,840$, for facing with here and there piling, at £3 per 100 cubic feet — — —	£28,512		
90,000 cubic feet of masonry in back projections to receive 2 inch tie rods, at £3 per 100 cubic feet — — —	£2,700		
Total of Masonry — — —	.....	£31,212	} There would probably be much saving in these items.
3,168,000 cubic feet of earth-work in filling in behind wall, at 3s. per 100 cubic feet — — —	£4,752	£4,752	
Total of earth-work — — —	.....	
FREIGHT AND INSURANCE.			
3,112 tons of 6 inch piles	} From England.		
5,150 " of 8 inch piles			
3,000 " of cups, &c.			
600 " of 2 inch rod iron			
929 " of $1\frac{1}{2}$ inch rod iron			
470 " of rails			
10,000 " of timber from Moulmein.			
500 " of Apparatus, &c., from England.			
23,761 tons, at £3-10s. per ton, including loading and unloading — — —		£83,164	} This is probably an outside rate for freight, &c., &c.
Total freight Insurance, &c., &c. — — —		.....

Probable Cost of the above,—concluded.

LABOUR.		£	£
On an average twenty men will screw down a pile a day with plenty to spare : $7,224 \times 20 = 145,480$ men, at 1s. each, including Sirdars, &c.		7,224	
Fitting tie-rods, &c.		1,000	
" rails, &c.		1,000	
Other labour (the platform is calculated at £15 per 100, including labour) including fixing fender piles		5,000	
Total of labour		.....	14,224
Grand total, labour and materials		.....	610,239
ESTABLISHMENT.			
1 Small Steamer to attend the works		15,000	This Steamer will not be constantly employed, and when not so, she can earn money as a Tug. It is probable the whole project would <i>not</i> take five years to carry out. At all events the <i>whole</i> of this Establishment would not be required during the first and last years.
8 Cargo Boats, with a boat each, at £1,000 each		8,000	
Establishment of Steamer, at £200 a month, for five years		12,000	
Establishment of 8 Cargo Boats, at £80 a month, for five years...		4,800	
Directing Engineer, at £200 a month, for five years		12,000	
Two Executive Engineers, at £100 a month each, for five years...		12,000	
Four European Subordinates, at £20 each per month, for five years		4,800	
Four Native Subordinates, at £10 each per month, for five years		2,400	

Office Clerks, Writers, Peons, and Stationery, at £200 a month	12,000	107,000
House and ground rent, at £400 a month	24,000	
	.....	717,299
Add Contingencies and things unforeseen, at 10 per cent.		71,724
Grand total for piers and tramway ... ..	.....	788,963
RATE OF COST OF SCREW MOORINGS.		
400—12 cwt. screws, at £25 each	10,000	
100 sets of buoys and chains, at £400 each	40,000	
6 ditto screwing instruments, at £150	900	
N. B.—The crew of Steamer and Cargo Boats could screw these down	50,900	
Contingencies, at 10 per cent.	5,090	55,990
Total for piers, tramway, and moorings for Ships alongside the piers ... ..	.....	844,953
Add for other moorings ... ..	.....	155,047
Total for the accommodation of the whole of the Shipping and Commerce in the Port of Calcutta ... ..	.....	1,000,000

Calcutta, }
13th October 1864.

A. FRASER, *Invent. Colonel, R. E.*

Demi-official letter from LIEUT. COLONEL A. FRASER, R. E., Supdt. of Lighthouses, to Under Secy. to Govt. of India, P. W. Dept.,—
(dated 19th October 1864.)

I made a mistake in my *note* of establishment for tramways, &c., which accompanied my letter No. 222 C, and which I altered in the detail, and not in the totals at the end of the note. Would you kindly correct this for me?

I don't know whether the information about Government of India having decided upon going in for jetties was intended to stop my plan, but it is easy to show that you *can't* build jetties without a tramway, or a tramway without jetties, with any useful effect.

1. You know that the chief godowns of this Port are situated at the *end* (the north) of a long line of ships moored along the bank, and that this distance (south) is three miles. That jetties should be generally useful you *must* build them along the *whole* line at the distance apart of a ship's length. You thus increase the principal cost of shipping goods, i. e., *land carriage on ordinary roads*, and it would be easy to show that the shipper would gain very little by this arrangement, while you merely produce the confusion now taking place opposite the godowns above along the whole of the Strand and Course.

2. A tramway without jetties would not pay, because it would never be used, as it would merely add the cost of conveyance along the tramroad to the cost of present boat hire, which, I imagine, varies but little at any point of the river bank within the three miles.

It seems to me, therefore, you *must* go in for the combination of the line as I have proposed, and which is at least comprehensive. You can't have *solid* jetties, as the bays would silt up, and of others none are equal in permanence and celerity of construction to screw piles.

I wish I had mentioned the points (noted in 1 and 2 above) in my letter, but in laying it before Government you can do so for me should the Government be inclined to give consideration to the matter.

P. S.—By adopting my proposed arrangements you settle the *whole* river question at once; any partial arrangements are, to my mind, to be avoided.

Note of the probable Cost of maintaining the Wharves, Jetties, Tramways, and Moorings proposed in Lieut. Colonel Fraser's letter No. 222 C of 13th October 1864.

	Per annum.	Total
1.—Police Establishment.		
	Rs.	Rs.
1 European Constable, at Rs. 100 per month	1,200	
1 Jemadar „ 25 „ ...	300	
25 Peons „ 6 „ ...	1,800	
1 Boat and Crew „ 100 „ ...	1,200	
Total Police ...	.....	4,500
2.—Conservancy Establishment.		
2 Tindals, at Rs. 10 each per month ...	240	
50 Topazes „ 5 „ „ ...	3,000	
1 Boat and Crew „ 100 per month ...	1,200	
Total Conservancy ...	.....	4,440
3.—Toll-collecting Establishment.		
All steps down to the river from the bays should be free for the passengers and light goods; all steps down to pier sides, and all passengers and goods along the jetties to the ships should pay toll.		
To each pier one Collector of tolls and Register of goods passed would be necessary, giving security of Rs. 1,000.		
50 Collectors, at Rs. 50 each per mensem ...	30,000	
5 Daily bill preparers for goods passed to and from by Registering Collectors, at Rs. 75 each per month	4,500	
Total toll-collecting ...	.....	34,500
4.—Tramway Establishment.		
As Coolies would be required for cranes for loading and unloading, it is probably best to do the whole work by manual labour.		
5 European Overseers, with ten piers and sixty trucks in the charge of each, at Rs. 100 each per month	6,000	

Note of probable Cost of maintaining Wharves &c.—contd.

	Per annum.	Total
	Rs.	Rs.
These Overseers shall also keep a daily register of goods loaded and unloaded in and from their trucks to check the Native Collectors.		
5 Coolie Sirdars, at Rs. 10 each per month ...	600	
6 Ditto to each of 300 trucks, 1,800 Coolies at Rs. 6 each per month	1,29,600	
Total Tramway Establishment ...	.....	1,36,200
ESTABLISHMENT, TRAMWAY.		
5.—Harbour Master's Establishment.		
1 Steamer, interest on her value (£15,000), at 6 per cent.	9,000	
25 Boats of three classes, at £1,000 each, with small Boats, interest on Rs. 2,50,000, at 6 per cent.	15,000	
2 Gigs, at £80, interest, at Rs. 6 per cent., on Rs. 1,600... ..	96	
Establishment of Steamer and Coal, at Rs. 3,000 a month	36,000	
Ditto of 25 Boats, averaging Rs. 100 a month ...	30,000	
25 Assistant Harbour Masters, in three classes, averaging Rs. 300 a month each	90,000	
Establishment for two Gigs, six-oared	1,800	
Total Harbour Master's Establishment ...	.....	1,81,896
6.—General Establishment.		
The Secretary, Superintendent, and Engineer, at Rs. 2,000 per month	24,000	
1 Ditto ditto Wharf Master, at Rs. 1,000 per month	12,000	
1 Ditto ditto Harbour Master, " 800 " ...	9,600	
1 Cashier, giving Rs. 20,000 security, " 200 " ...	2,400	48,000
7.—Office.		
1 Register, at Rs. 400 per month	4,800	
1 Checking Clerk to check the Registers of Wharf Overseers and Toll Collectors, at Rs. 350 per month	4,200	

Note of probable Cost of maintaining Wharves, &c.,—contd.

	Per annum.	Total
	Rs.	Rs.
1 General Clerk for Secretary and Superintendent, at Rs. 300 per month	3,600	
1 Ditto ditto, at Rs. 200 per month	2,400	
2 Ditto ditto for Superintendent, at Rs. 200 each per month	4,800	
1 Wharf Master's Clerk, at Rs. 200 per month	2,400	
1 Harbour Master's ,, ,, 200 ,,	2,400	
Office rent, at Rs. 500 a month	6,000	
		30,600
Grand total per annum ... ..	.....	4,18,536
ABSTRACT.		
1.—Police	4,500	
2.—Conservancy	4,440	
3.—Toll-collecting	34,500	
4.—Tramway Establishment	1,14,600	
5.—Harbour Master's ditto	1,81,896	
6.—General Establishment	48,000	
7.—Office	30,600	
	1,18,536	
Contingencies, at Rs. 10 per cent.	41,854	41,854
Grand total per annum	4,60,390	4,60,390

	Rs.	Rs.
Taking, therefore, 2,000,000 tons of goods landed and shipped a charge of Rs. 2 per ton as the <i>sole</i> charge to be made against a Ship while in Port, <i>except</i> for light dues and pilotage, would bring in a gross income to a "Trust" of per annum		40,00,000
Deduct for Establishment	4,50,000	
,, repairs, renewals and wear and tear	5,50,000	10,00,000
Balance clear profit per annum ... ..	...	30,00,000

				Rs.
N. B.—The actual amount of <i>Imports of Merchandize</i> for the year 1863-64 was in value ...	...	...	...	11,08,63,281
And of Treasure	...	...	...	5,51,99,333
Total				16,60,62,614

The actual amount of *Import* tonnage was 917,102 tons, ∴ the mean value of a ton of goods imported was $= \frac{11,08,63,281}{9,17,102} = \text{Rs. } 121.$

The actual amount of <i>Exports of Merchandize</i> for the year 1863-64 was in value ...				...	20,94,69,119
And of Treasure	...	...	..	...	2,97,93,166
Total				..	23,92,62,285

The actual amount of *Export* tonnage for 1863-64 was Rs. 8,82,166, ∴ the mean value of a ton of *Merchandize exported* was $= \frac{20,94,69,119}{8,82,166} = \text{Rs. } 240.$

∴ The mean value of a ton of *Export and Import Merchandize* $= \frac{240 \times 12}{2} = \text{Rs. } 180$ nearly.

I have proposed Rs. 2 per ton. The questions seem to be resolved into, can the Merchant pay $1\frac{1}{2}$ per ton, or about .9 per cent., on the value of his goods on the *average* (of course some goods would pay more and some less)? and will the charge on the "Treasure" make up the remaining $\frac{1}{2}$ per ton on the difference between $8,82,166 \times 91,702 = 17,99,268$ (the actual Import and Export tonnage) and the 2,000,000 tons upon which I have calculated as paying labour dues and wharfage at Rs. 2 per ton?

If these questions are answered affirmatively, then I say what with the internal commerce and tolls on passengers besides the scheme will pay the "Trust" over 40 per cent., which is very large margin of profit.

General Line of River Bank.

Filling in River Bank 60' x 4' x 15840'

Wall averaging 72' x 5' x 15840'

First Bay from the wall

Second D^o and Down Tramway

Third D^o and up D^o

Fourth D^o

Tramway Double on 6' diam
Piles and Screws
A A 90° turntables

about low water

about 6' water at D^o

Pier With double Line of
Tramway on 8' diam
Screw piles with 12' x 12'
Trab Forster Piles out side

Bay for inland steamers' Elats
Native Boats & They can

discharge either at wharf or at
either Pier

average distance
from bank to
about 1/2 flood - 1/2 low

MOVABLE CRANE ON
TRAMWAY
TRAMWAY
TRAMWAY
MOVABLE CRANE ON
TRAMWAY

Sea Going Ship

Stern

Bow

Sea Going Ship

Inner side of Ship
Longitudinal axis of ship so of water below keel at L.W. Tides
outer side of Ship

These Screws may possibly
require to be further apart

Elevation

BOUY

High Water

Ground Level

Screw

Screw

Sketch showing the plan proposed by the undersigned in this letters D^o 221 C and 222 C
for a continuous Line of Wharfs and Tramways, with 60 projecting Piers on the left Bank
of the Hooghly at Calcutta, from the Railway Station to the Dock Yard, together with a
sketch of the mode proposed of mooring with mitchells screws

(Signed) Alex^r Fraser, Esq. R. E.
Superintendent of Dockyard

Calcutta 15th October 1864

Memorandum.

I conclude this paper with a Memorandum of the probable cost of the present mode of shipping goods which I obtained from Major Willes, Deputy Commissary General.

	Rs.	As.	P.
1. The average cost per ton (taking light and heavy goods together) of carriage by hackery in Calcutta per mile is	1	11	0
(Of this the shipper and receiver of goods would save by the tramway from 4 annas to 8 annas per ton.)			
2. The average cost per ton (taking as above) of Boat hire from river bank to ship's side is	2	0	0
(Of this the shipper would save Rs. 2 per ton.)			
3. The average cost per ton (taking as above) of lifting goods from a hackery on the river bank into a boat at the river side	1	11	0
(Of this the shipper would save Rs. 1-11.)			
4. From another source I learn that the cost of lifting a ton of goods from a boat into a ship is about per ton	0	4	0
(Of this the shipper would save 4 annas.)			
5. I assume myself that a ship does not pay less than (per ton) for Harbour Masters and moorings	0	4	0
Total now paid per ton	5	14	0

Hence it would appear that by paying a tonnage due of Rs. 2 per ton for the tramway, piers, wharf, and moorings, and all other port dues, the shippers and receivers of goods and owners of ships would *save* over Rs. 2 per ton, which is another large margin of profit. So that it is probable that a tonnage due of Rs. 2-8 per ton, while very profitable to trade, would meet all harbour dues, all light dues, and all other dues necessary to keep the river from Calcutta to its mouth in the most perfect order possible, and, while giving to the shipping the most perfect accommodation, would give an extraordinary profit to the "Trust" which undertakes the arrangements.

P. S.—Private wharfs, such as the Peninsular and Oriental Company's, &c., should either be joined into the general arrangements and compensation given, or should be separately taxed.

Memo.,—From LIEUT. COLONEL J. P. BEADLE, R. E., Secy. to Govt. of Bengal, in the P. W. Dept., to Secy. to Govt. of Bengal,—(No. 5443, dated 12th November 1864.)

Referring to the correspondence as per margin, the undersigned is directed to forward herewith to the Secretary to the Government of Bengal for information, a copy of a Report by the Superintending Engineer of the Presidency Circle, No. 2971 of the 19th ultimo, relating to the damages done by the late hurricane to the Government buildings and works in the Garrison Engineer's Division, the Presidency Division, and the First Division of the Grand Trunk Road.

2. A copy of a letter No. 5168, addressed to the Government of India, in the Public Works Department, on the 29th ultimo, is also forwarded, from which it will be seen that a special grant for expenditure in the current year for the restoration of the buildings and works which have been damaged, has been applied for.

From LIEUT. COLONEL J. P. BEADLE, R. E., Secy. to Govt. of Bengal, in the P. W. Dept, to Secy. to Govt. of India, P. W. Dept.,—(No. 5168, dated 29th October 1864.)

In continuation of this Office docket No. 5119, dated 27th instant, submitting copy of a note on the course and rate of progress of the recent Cyclone, I am now directed to submit copy of a Report by the Superintending Engineer, Presidency Circle, on the damage done by the hurricane to the Government buildings and works under the charge of the Garrison Engineer in the Presidency Division and in the First Division, Grand Trunk Road.

2. The damage occasioned by the hurricane has been confined chiefly to the eight divisions noted in margin, and detailed Reports on each of these divisions will be submitted to the Government of India in due course.

3. From the Report now submitted, it will be seen that the amount

1. Garrison Engineer.
2. Presidency Division.
3. First Division, Grand Trunk Road.
4. Damoodah Division.
5. Midnapore "
6. Tumlook "
7. Hidgalee "
8. 24-Pergunnahs Division.

roughly estimated as required to make good the damage sustained in the three first-named divisions, may be stated as—

	Rs.
For Fort William, including Barrackpore and Dum-Dum ...	3,50,000
„ Presidency Division	2,00,000
„ First Division, Grand Trunk Road ...	40,000

exclusive of the amount required for the re-construction of the large buildings, which have been so much destroyed as to be beyond repair. Measures have been adopted for the execution of such essential works as are immediately required to render buildings habitable; and the annexed copy of a letter addressed to the Superintending Engineers of the South-Eastern Circle and Presidency Circle, will show the measures authorized for the employment of the destitute population of the embanked coast districts.

4. The extraordinary outlay required for the restoration of works and buildings will amount at least to eight lakhs of Rupees, and I am to request that a special grant of the above amount may, if possible, be made available for expenditure during the year. Detailed Appropriation Statements will be prepared, and the expenditure will be incurred as far as practicable under the rules of the Department.

5. The ordinary supervising Establishments of the divisions most affected will probably not be sufficient to meet this emergency for estimating and supervising, and the Lieutenant Governor has empowered the Chief Engineer to engage temporarily such additional Establishments as may be considered emergently required, reporting the same for approval. The services of an additional Engineer Officer of experience would be very desirable for a few months at Barrackpore, and two young Engineer Officers might be employed, with advantage, in the Embankment Divisions; the Lieutenant Governor trusts that if such assistance can be made available, it will be given.

6. The Lieutenant Governor does not consider it necessary that a Committee should be convened, as is proposed by the Superintending Engineer in the 92nd paragraph of his Report; ordinary repairs and re-constructions will, in general, be carried out, but in the case of the more important buildings, each case will be specially considered by Government.

From LIEUT. COLONEL W. D. SHORT, R. E., Suptg. Engr., Presidency Circle, to Chief Engr., Bengal,—(No. 2971, dated 19th October 1864.)

Agreeably to the instructions conveyed in Bengal Government's

Submits Report of effect of gale on works and buildings in First Division, Grand Trunk Road, Presidency Division, Garrison Engineer's Division.

No. 1322 of 17th October 1864, I have the honor to submit the following Report on the effects of the gale of the 5th October, showing the injuries

sustained by the public works and buildings in the undermentioned divisions:—

First Division, Grand Trunk Road.

Presidency Division.

Garrison Engineer's Division.

And hereafter the Reports on the Embanked Divisions, viz.,—

Report on the embanked districts to follow on receipt of reliable information.

Damoodah Division,

Tumlook „

Midnapore „

Hidgelee „

will follow, as time is required to enable the Officers to visit their works, the interior communications having been for the most part seriously injured.

2. Between 2 and 4 A. M. of the 6th instant, a strong wind pre-

Limit of gale to North-West in first division, Grand Trunk Road.

vailed at Raneegunge. This, however, did not lead the Executive to believe

that it extended far to the south ; however, at 1 P. M., on the 6th, information was received that the passage of the Damoodah at Raneegunge was impracticable owing to the violence of wind, and at 3 P. M. news arrived that the country to south was being visited by a Cyclone, when the Executive at once arranged to visit each locality, which he did most effectively, bringing his report in person to me in Calcutta.

3. The 90th milestone on Grand Trunk Road was the extreme

Extreme limit of damage on the Grand Trunk Road.

limit at which the effects of the gale were felt, and between the 88th and

74th mile-stones (near Burdwan) a few trees were destroyed.

4. At Burdwan two pairs of doors in the Circuit House were

Injuries to works and buildings at Burdwan Station.

blown in and one pair in the Jail, no other buildings having suffered, but

the fine old tree close to the Sudder Ameen's Cutcherry, which afforded shelter to all who attended the Court, was blown down, and by its fall the building has been slightly injured.

Avenue of trees between Station and Mission Church at Burdwan much injured.

5. The very fine avenue of trees along Grand Trunk Road between the Station and the Mission Church have suffered much.

6. Between the 71st and 70th mile-stones the trees on roadside were destroyed. The Road Chowkee at Alsa was only slightly damaged; the trees, however, in the garden were all destroyed.

7. From the 70th to the 56th mile-stones the trees at road-side suffered severely, and in parts were blown down, blocking up the road. The Chenia Road Chowkee suffered slightly, and the choice trees in the garden were all blown down, and the out-offices were unroofed, and the walls blown down.

8. The violence of the gale and its destructive character may be said to have been intensified at the destructive character of gale between 56th and 42nd miles. 56th mile-stone, from which to the 42nd not a tree of the continuous avenue flanking and shading the road has been left. The Road Chowkee at Simla-Ghur, with out-offices, was unroofed and severely injured, necessitating re-building.

9. Between the 42nd and 30th miles the action of the gale was more severe, as it not only uprooted and destroyed all the trees along the road-side, but blew away the parapets of the masonry works. The wooden truss bridges at Mugrah and Satgong have suffered severely, the railings, which were 8 feet high, having been blown away. The flooring of the Nyaserai Bridge was torn up and many of the planks lost; the Tribany Bridge, however, was not injured. The plastering on these four large bridges has been ripped off, and the masonry partially injured. The Mugrah Chowkee and out-offices were unroofed, and the masonry partially injured, whilst the road in the vicinity was blocked up by the trees blown down, and which formed a net-work on the road.

10. Between the 30th and 18th mile-stones at Phultah Ghat the splendid avenue of trees was entirely destroyed, the road being blocked up by their fall, and the fine old bhur trees near the ghat were uprooted. The two Government ferry boats, one large and one small, were sunk, the smaller one being split in two by the violence of the storm. The fish in the tank in the camping ground were whirled out of the water, and found stranded at a distance of some thirty yards.

11. The Howrah branch road connecting the Grand Trunk Road at Phultah Ghat with Howrah, suffered most severely. At Balee the road was breached 450 feet in length, the entire section being carried away. Up to the cross roads at Sulkeah the road was blocked up by the fallen trees, the parapets of all the culverts blown away, and several of the culverts near Serampore injured by the excess volume of water, which was suddenly forced through them. The Road Chowkees at Phultah and Baloor were unroofed, the doors and windows blown away, and the walls are in ruins. The Balee Khal Bridge was, strange to say, uninjured, the towing paths were swept away, leaving, however, the projecting iron brackets. Four of the lanterns were blown away and much of the plaster on the bridge ripped off.

12. The Station of Hooghly suffered most severely, and the injuries to the buildings have been great. Buildings at Hooghly severely tested. owing to their being old, and, in the first instance, badly constructed, inferior materials having been used.

13. The Mahomedan College to outer appearance indicated that the building was a substantial and well built one, but the storm has laid bare its defects. The masonry is for the principal part composed of half-burnt bricks, and these are found dry with little or no cement binding them; indeed, there is little or no adhesion between the bricks, very little mortar having been used. The doors, venetians, and sunshades have been more or less injured, the walls are cracked in several places, the plaster ripped off all pillars and walls, the balustrades, parapets, walls, compound wall, sky-lights, have been destroyed, and, considering how the gale swept the building, it is fortunate that it was not more injured; it will, however, require very extensive repairs.

14. The Circuit House at Bandel, lately the residence of the Dacoity Commissioner, has been, it may be said, rendered unsafe. The building was formerly private property and was purchased by Government, and from time to time it has been altered and added to meet the requirements of occupants without any regard to safety, the additions being recognised by a marked separation from the main building. The walls have been much injured, the venetians, doors, blinds, sunshades, railing, &c., having been swept away, and the plaster ripped off the building. The fine large trees close to the buildings were rooted up, and in their fall left the ranges of fine out-offices

in ruins. The ranges of detached out-offices and stables have been blown down, and are in ruins. The beautiful trees on the property which gave it the appearance of a park are all torn up by the roots, and one in its fall has been actually driven into the ground several feet. The quarters allotted for the Police with the buildings thereon have been desolated.

15. The Magistrate's and Judge's Cutcherry, the Post Office, the old Circuit House, the ghat on the Hooghly, have not been so severely dealt with, the doors and venetians only having been injured, and the plaster ripped off here and there. The Collectorate, from its exposed position, has, however, suffered severely, the venetians and doors having been destroyed and much of the plaster stripped off the building, and to the east and south the verandahs in both stories have been destroyed. All the out-offices to most of the civil buildings have been more or less severely injured.

16. The Jail has not suffered much, although the doors were torn away and the plaster ripped off, the principal damage being in the Hospital, which will require much repair.

State of Jail buildings.

17. At the Station of Serampore the river ghats have been so injured as to necessitate their renewal or very extensive repairs. In the Church an arch over one of the doorways has given way, and must be re-built, the doors were all more or less injured, and all the glass destroyed. The Post Office has sustained little injury, being a low compact building, and only slight repairs will be necessary. In the old Secretary's house the doors were blown in, the outer plastering much injured, and the small circular verandah carried away, and this must be renewed. The Magistrate's residence has suffered most severely, and from the ripping off of the plastering from the exterior and interior there is evidence that the masonry is indifferent in quality and crushed in parts; indeed, the whole building will require a thorough examination, the small room on the top of the house should be removed. The verandah which was built on all sides of it has been swept away. The bathing-room attached was very damp, and caused much leakage and trouble, and it will be expedient to keep the terraced roof clear and repair it thoroughly. The lower story was severely visited owing to the enormous doorways, which were twelve feet high and six feet wide; the doors, &c., were more or

Damages to the buildings at Station of Serampore

less injured in ordinary storms as there was no Establishment to close them timely, and the Cyclone naturally swept through them. Such heavy doors cannot be secured ; the upper portion should have fixed venetians, the doors being confined to 8 feet. The buiding on the south side has been so shaken by the gale that it may be pronounced unsafe, and the actual state can only be verified when the plaster, which is now much swollen everywhere, is taken down and the masonry thoroughly examined.

18. The out-offices have been, it may be said, destroyed and must be re-built, the walls are all out of the perpendicular. The cook-room verandah is carried away, and must be re-built.

Destinction of out-offices

19. The Jail has suffered severely, the portion of outer walls, which were half built, have been destroyed, as also the old walls ; indeed, the whole will have to be re-constructed ; the masonry, plaster, and doors in the Jail and Cutcherry have been much injured and will require extensive repair.

Injuries to Jail and Cutcherry and Deputy Magistrate's Cutcherry.

The Deputy Magistrate's Cutcherry has escaped with trifling injury, the doors only having been damaged and the plaster ripped off.

20. At Ooterparrah the School-house has lost its doors and railing, the plaster has been injured, and the masonry slightly. The Post Office has been unroofed, the verandah pillars destroyed, and the masonry of the building has suffered considerably, necessitating its re-construction.

Damage to buildings at Ooterparrah.

21. The Executive has evinced great energy and judgment in the crisis, and, on receipt of verbal instructions from me, arranged for the opening out of the Grand Trunk Road by the removal of trees, for the immediate execution of the most urgent repairs, purchased boats for the ferry, and every effort is being made to meet the requirements of the public and the Civil Officers.

Energy and judgment evinced by Executive Engineer in the crisis.

22. The annexed Statement(A) slightly corrected by me was made over by the Executive Engineer, showing that a sum of about Rs. 36,500 will be required to repair the injuries to the public works and buildings in this Division.

23. The injuries sustained by the public works and buildings in the Presidency Division are detailed in the Statements herewith annexed.

Effects of gale on buildings in Presidency Division recorded in Statements herewith submitted.

Injuries to Government House and buildings west of Chitpore and Chowringhee roads.

In No. 1, or Calcutta West Sub-Division, the damages are estimated at Rs. 36,000, of which Rs. 4,500 is for Government House and Rs. 1,300 for the out-offices, or nearly one-sixth of the whole amount. The General Treasury Buildings, from their exposed position, have suffered severely, and, considering the state of the western wing already specially reported on, I consider it expedient to urge that the whole question connected with the accommodation required by the Treasury Department be examined into. The Custom House and the Writers' Buildings have suffered much. In the Mint buildings the sky-lights have been severely

Destruction of ridge ventilator on roof over laminating room in Mint premises.

damaged, and the ridge ventilator to laminating room destroyed. My special report on the corrugated iron roof with that of Mr. Granville and Mr Smith was submitted with my No. 2344 of 2nd September 1864, and, considering the very exposed position of the roof, and the liability to be frequently tried by gales of as great or lesser severity than that lately experienced, I am of opinion that

A new terraced roof on latticed girders recommended to be substituted for the corrugated iron one which is now so inefficient.

it would be inexpedient to provide a second corrugated roof, as, with the excess ventilation and light so much needed, there would be greater facility for storms to attack the weak points; and although some difficulty will be experienced in designing a terraced roof with iron girders, I strongly recommend a good terraced roof, and the question will be specially laid before you for consideration.

24. In No. 2 Sub-Division the buildings to the east of the Chitpore and Chowringhee roads have not sustained much injury. The Medical

Damages to buildings in Calcutta east of the Chitpore and Chowringhee roads.

College and Hospital with dwelling-houses have principally suffered. Although the dwelling of the Principal has been severely tried, and is susceptible of being thoroughly repaired, it may hereafter be deemed expedient to provide a more modern and efficient building, and more in keeping with the style of the College and Hospital, and this remark is equally applicable to the adjacent buildings.

25. In No. 3 Sub-Division (comprising the buildings at Alipore, Kidderpore, the High Court, and Great Jail, &c.,) the damages have been serious, and are fully detailed in the annexed Statement.

26. The beauty of the grounds of the Belvedere estate has been destroyed owing to the uprooting of the many fine trees; the house, however, has been but little injured, although it had a narrow escape, for had the large tree not fallen to south, but on the building, the injury must have been very extensive. The principal damage has been to the stable and coach-house range and to the boundary walls owing to the fall thereon of trees, and about Rs. 1,500 will cover the repairs.

27. The Judge's, Collector's, and Magistrate's Court have not suffered much, but the several ranges and out-offices have been extensively injured; indeed, No. 7 range is in a dangerous state and will have to be re-built. The cost of repairs to the Civil Buildings is estimated at some Rs. 8,500, and in renewing certain minor buildings it will be true economy to provide terraced roofs, which will entail a larger outlay.

28. The buildings noted in the margin, with the minor ones attached to each, have not suffered much, that is, about Rs. 1,000 will be required to repair the damages.

Alipore Magistrate's Dwelling-house.
European Lunatic Asylum.
Native Lunatic Asylum

29. St. Stephen's Church at Kidderpore, from its exposed position, was severely tried, some 12 feet of the spire having been blown down, as also the skylight and part of the zinc roofing, and other minor damages. The repair to the Church Parsonage and other buildings will average about Rs. 800.

30. The High Court at Dhullunda and the buildings attached have been very considerably damaged, as detailed, and Rs. 6,000 are estimated to cover the repairs, and in renewing the covered passages and the extensive out-offices; it will be true economy to provide terraced roofs.

31. The greatest destruction has fallen on the buildings in the Kidderpore Dock Yard; indeed, the Master Attendant's house has been so injured as to render it unsafe, and it should be thoroughly examined. The

Great destruction of property in the Government Dock Yard premises.

wholesale destruction of the tiled and goleputta roofs (which at all times are a source of constant trouble and expense) prove that more substantial shelter is in the end true economy. The repairs are estimated to cost Rs. 70,000, and large as this amount may appear, I do not think it in excess ; indeed, if the shelter so necessary is again provided, experience proves that it should be more substantial, in which case one and a half to two lakhs of Rupees will meet requirements.

32. The Great Jail premises have suffered considerably, some 150 feet of the wall dividing these from the House of Correction having fallen. Injuries to Great Jail and House of Correction premises. The repairs are estimated at Rs. 4,000, but the outlay will probably be Rs. 5,000. In the House of Correction premises damages have been comparatively trifling, and about Rs. 1,500 will cover the repairs.

33. The Telegraph Depôt premises have naturally suffered much owing to the tiled roofing, which has been entirely destroyed ; and Rs. 3,000 will be required to effect the repairs. Damages to Telegraph Depôt buildings.

34. The Clothing Agency has not suffered, but the out-offices and subordinates' quarters have been severely damaged, the tiled and goleputta roofs having been blown away ; and to repair these about a thousand Rupees will be required, but it will be true economy to lay out a much larger sum in providing more permanent shelter. Injuries to Clothing Agency premises, and more substantial minor buildings recommended.

35. The Cooly Bazar Store Godowns have been most severely injured owing to the tiled roofings, which are most unsuitable and ever a source of trouble and expense. About Rs. 2,000 would repair the damages, but it would be expedient to provide at a larger outlay permanent shelter. Destruction of Cooly Bazar Godowns.

36. Mr. Sub-Engineer Mann's statement is very complete, the probable cost of repairs being estimated at about a lakh of Rupees, but I believe that when the detail is obtained, that one and a half lakhs will be nearer the mark, and if the Government concurs in the recommendations to provide at many localities more durable shelter, the outlay may be reckoned at five lakhs, and I am confident that in ten years the expenditure would be repaid by the decreased cost of annual and petty repairs.

37. In No. 4 Sub-Division (comprising the buildings on the right bank of the Hooghly at Howrah and Sulkeah) the damages have not been very extensive. The Goosery Salt Golahs have been severely injured, and some Rs 8 to 10,000 will be required to effect the repairs; the buildings, however, are only rented by the Government, and the owner should be called upon by the Revenue Board to execute the repairs without delay, failing which the salt will be injured. The tidal wave has eroded and indented the river bank opposite the Golahs very seriously, so much so as to endanger a portion of the building, and the Salt Department will be requested to remove the salt. To divert the river at the several indentations and to cause these to silt up would entail a very heavy outlay, which the Government would doubtless rather not incur; the question, however, is a difficult one, and will be best settled in communication with the Revenue Board.

38. The Sulkeah Government Salt Golahs have suffered to an equal extent; indeed, the roofs of all the kutchah Golahs will require renewal. Destructive effects of gale on the Sulkeah Golahs. These buildings, as already reported, are in the last state of decay, and it will be a source of satisfaction when the Salt stored therein is sold; the value, however, of the stock demands immediate protection, and about Rs. 11 or 12,000 will ensure this.

39. The Howrah Magistrate's Dwelling-house and Cutcherry have been severely injured, and about Rs. 4,500 are required to effect the repairs. Injuries to civil buildings in Howrah.

Minor buildings at Howrah not injured, and the well-built School-house in no way damaged.

40. The smaller buildings at Howrah have not been much injured, and the gale had no effect on the new substantially built School-house.

41. The Botanical Gardens have been destroyed by the storm, and the loss in valuable trees, &c., must be very great. The Superintendent's house was most severely tried. Great destruction on Botanical Gardens and serious damage to Superintendent's house.

Venetian doors and windows were destroyed, sashes, sunshades, and railings blown away, much plaster ripped off, three sheds swept away, and a serious crack has occurred in the eastern wing of the building, which must be carefully examined.

Probable cost to repair damages in Howrah Sub-Division.

42. About Rs. 40 to 50,000 may be assumed as the probable cost of repairs in this Sub-Division.

43. Thus in the aggregate the probable expense which it will be

Aggregate amount required for repairs in the Presidency Division, estimated at Rs. 2,50,000, or six lakhs, if more durable and permanent shelter is provided, as recommended

necessary to incur to place the works and buildings in the Presidency Division in the state in which they were before the gale occurred, may be estimated at about Rs. 2,50,000, and if more durable repairs are considered expedient, Rs. 6,00,000 will probably be required.

44. Mr. Assistant Engineer Neuville and the Subordinates in

Mr Assistant Engineer Neuville and Subordinates evinced energy in supplying information.

charge of the several Sub-Divisions evinced much energy in furnishing the required information, and it is hoped that Messrs. Burn and Company, as Contractors, will be equal to meet the numerous repair requirements.

45. The Executive Engineer, Mr. Hickey, was during the gale

Mr Hickey, Executive Engineer, temporarily absent on board the *Bentinck*, but returned immediately after the gale and resumed his duties.

on board the *Bentinck*, but immediately on his return resumed his duties and has since been most active in the performance of his duties.

Submits a complete report on the damages done to the roads and buildings in the Garrison Engineer's Division.

46. The annexed report on the damage done by the hurricane to the buildings and roads in the Garrison Engineer's Division is complete.

47. It will be seen that the Barracks in Fort William (noted in

Damages done to the Barracks in Fort William—

Dalhousie Barrack.	
Queen's	"
North	"
South	"
Rampart	"
Staff	"

margin) have not suffered much; indeed very little, considering their exposed position; but the Royal Barrack has been much damaged, that is, the south wall of the verandah seriously cracked and out of the plumb, causing the arches to crack. The main strut

of the stairs has fallen down, and with other minor injuries, this building has been much tried.

48. The roofs to cook-houses, privies, and solitary cells have suffered

Tiled roofs of cook-houses, privies, &c., much injured.

much, wherever they were tiled, which might have been expected; indeed, these tiled roofs are ever a source of trouble and expense, and are

unsuited for buildings in such a climate, and in the end are the least economical style of building.

49. The corrugated iron roof of the plunge-baths has been blown off. Where such storms and so much rain prevail, the expediency of such roofs for permanent buildings is very doubtful; and, with the experience gained, it may be found true economy to provide terrace roofs with iron girders.

Corrugated iron roof of plunge-baths blown off.
Destruction of venetians, sunshades, windows, &c, of the several buildings over the gateways.

50. The several buildings over the gateways have suffered by the destruction of venetians, sunshades, windows, porticos, and this is the least that might be expected from a gale.

51. On the whole the buildings in Fort William have escaped with comparatively little damage, and from Rs. 26,000 to 30,000 will meet the repair requirements. This, however, is a good opportunity to determine whether it will not be true economy to abandon tiled and corrugated roofs and give more durable shelter, in which case the outlay will be larger; but the saving in repairs will soon cover the excess, not to mention the increased comfort.

52. St. Peter's Church has suffered considerably, the planked roof broken, the corrugated iron roof severely damaged, the trusses, nine in number, much injured; indeed, three require renewal; these and other losses show that the building was severely tried, and it will be necessary to protect the corrugated iron roof by iron wind ties. The cost of repairs is included in the amount noted for the Fort buildings.

53. The Eden Gardens have been desolated, all the large trees having been blown down. The Burmese Pagoda, which had been lately renovated, has its spire blown down, and most of the carved caves and pinnacles carried away, and will require thorough renewal. The refreshment room is happily blown down, and a good opportunity will be afforded to locate it in some sequestered spot.

54. The Ochterlony Monument has had much plaster ripped off, and this will be renewed with the general repairs about to be executed.

The Ochterlony Monument slightly injured.

The trees, &c., on the maidan destroyed.

55. The lamps, posts, rails, and balustrades on the maidan suffered much, as also the few trees; but the cost of repairs will be trifling.

56. The storm wave has eroded portions of river side along the Strand

River bank along Strand course much eroded by storm wave, and its re-alignment necessary.

road very extensively, and timely measures must be taken to re-gain the lost land. The work will require to be carefully done, and the expense will be heavy; but the alignment of the bank must be maintained, and no indentations allowed for the tides to eddy in and enlarge.

57. The buildings in Cooly Bazar have suffered extensively in

The buildings in Cooly bazar much blown about and damaged.

wood-works. The numerous roofs of tiles and goleputta leaves have been destroyed, as might be expected, and the corrugated iron roofs, with purlins, have been blown off. The new Conductors' Barracks have escaped with trifling damage, but the old Barracks have suffered severely, as also the river jetties.

58. At Kidderpore the Hospital building has been severely tried.

The Kidderpore buildings severely injured.

The soorkey coating on the main terrace roof partly blown off, the corrugated iron roof to bath-room swept away, the pantiled verandah on south, 86×12 , carried away, portions of walls and arches cracked, and other minor damages. The other buildings have been more or less injured.

59. In the Alipore Cantonment lines, the Commanding Officer's

The buildings in Alipore Cantonment lines slightly injured.

quarters have been much damaged, and the tiled and goleputta roofs of the minor buildings have been, more or less, destroyed, and some 200 or more trees have been blown down, destroying the beauty of the grounds.

60. At Dhullunda the General with other Hospitals and buildings

The buildings at Dhullunda swept by the gale and much damaged in wood-works

have suffered principally in doors, venetians, windows, sunshades, partitions, cornices, and sand-plastering, the corrugated iron roofing lately given to the new native privy having been blown away. The Medical Officer's quarters have suffered considerably, the balustrade on the roof having fallen, and the corrugated iron roofs of the porticos lately constructed, swept away. The loss in venetians, glass, &c., has been great.

61. The buildings in the Baleegunge Cantonments have been

The Baleegunge Cantonment buildings slightly damaged

comparatively slightly injured, and the estimated cost for repairing the damages at Cooly Bazar, Alipore, and Baleegunge may be stated at about Rs. 20,000 to 30,000.

62. At the Station of Barrackpore the destructive effects of the gale have been excessive. The Artillery

At Barrackpore five Artillery Barracks destroyed and irreparable; new permanent buildings to be substituted.

Barracks, from Nos. 1 to 5 inclusive, have had their roofs, with a large portion of the walls, blown down, and may be pronounced irreparable. I am of opinion that the Barracks which have been completely destroyed should be replaced by more permanent structures.

63. Artillery Barracks Nos. 6 and 7 and Nos. 8, 9, and 10,

Five other Barracks severely damaged, but under repair in order to provide shelter.

occupied by the Lahore Light Horse, have had only a portion of the roofs and walls blown down, and being repairable, the Executive has arranged to have them re-built by contract within two months after commencement, shelter being indispensably necessary.

64. The Commissariat Godown No. 11 is in ruins and irreparable,

Commissariat Godown in ruins; new permanent structure recommended

the roof and walls having been blown down, and a more durable structure must be provided.

65. Barrack No. 12, occupied by the Lahore Light Horse, has had

Barrack No. 12 injured, but repairable.

only a portion of its roof damaged and will be repaired as quickly as possible.

66. Barrack No. 13, occupied by the East Indian Regiment, is in

Barrack No. 13 in ruins and irreparable, and No. 14, though much injured, to be repaired for sake of shelter.

ruins and irreparable, the roof and the greater portion of the walls having been blown down, whilst No. 14 will

be repaired, as only a portion of the roof has gone, the walls having been

Barracks Nos 15 to 20 inclusive severely injured; also European Hospital and Native Hospital Nos. 1 and 3, but all to be repaired, to provide early shelter.

only slightly damaged. The same remarks are applicable to No. 15, or the Barrack Theatre, to Barracks 16 to 20 inclusive, to the European Hospital and

Native Infantry Hospitals Nos. 1 and 3, all of which have been contracted to be rendered habitable within two months.

67. The Native Infantry Hospital No. 2 is in ruins and irreparable;

Native Infantry Hospital No 2 in ruins, because a temporary building, whilst another well built one is uninjured.

this building, however, was of a temporary nature, whilst another more permanent in its build has had only the doors and windows slightly damaged, which will be repaired.

68. The roofs of the wash-houses, urinaries, privies, bungalows, out-

Destinction of all tiled and corrugated iron roofs of minor buildings, proving waste of money in providing cheap work in such a climate

offices, skittle alleys, artillery and other stables, also corrugated iron roofs, have been either blown away or so damaged

69. The Station Church has suffered slightly, whilst the roof of
Station Church slightly damaged, but Roman Catholic Chapel much. the Roman Catholic Chapel has been partly blown away.

70. The Cattle and Elephants' sheds have been blown down;
Cattle and Elephants' sheds in ruins. their removal, however, had been previously determined upon.

71. The desolation at Barrackpore has been truly very great, and
Great destruction at Barrackpore and inconvenience to Troops. the Troops will suffer much inconvenience, particularly at this season of the year, when the rains are breaking up, and the country undrained; soon, however, they can be located in tents. The loss is estimated at two lakhs of Rupees for repairs only, but this sum does not include the re-building of such structures as have been irreparably damaged.
Cost of repairs estimated at two lakhs, not including re-building; all buildings in ruins.

72. With the experience gained of the unprofitableness of spending money on temporary structures, which from time to time are subjected to such severe tests, I would strongly urge the economy and expediency of providing once for all durable buildings, and surely the outlay, large as it will be, would prove a saving in the end by the decreased cost of annual and petty repairs, not to mention the increased comfort and health that would be secured.
Cheap temporary shelter, false economy, and an opportunity afforded to invest money in providing permanent buildings suitable to the vicissitudes of such a climate.

73. The buildings at Ishapore, with the Magazine at Duckinsore
Buildings at Ishapore slightly injured. and Phulta, have escaped with comparatively trifling damage.

74. On the Barrackpore Road, from Calcutta to the 11th mile-
Great destruction of fine avenue of trees on the Barrackpore road. stone, about 8 per cent. of the magnificent avenue of trees has been blown down, and the remainder shorn of their branches; whilst, from the 11th mile-stone to Barrackpore, 80 per cent. of the trees have been blown down. Although so great a quantity of fallen timber naturally obstructed the traffic, the Garrison Engineer made such efficient arrangements as to have the road opened out by the 14th instant.

75. The beauty of the Barrackpore Park has been destroyed in a

The beauty of Barrackpore Park destroyed.

The Governor General and Commander-in-Chief's houses slightly damaged.

Magazine buildings and Park Superintendent's quarters severely tried.

New well-built Staff bungalow in no way injured.

ings and the Park Superintendent's quarters have been severely damaged. The new substantially built Staff buildings have received but little injury.

very great measure, as about 50 per cent. of the fine trees have been blown down. The Governor General's House and Flag Staff Bungalow have escaped with only the loss of many venetians, doors, and sunshades, whilst the Magazine build-

76. At the Station of Dum-Dum, Barracks Nos. 1, 2, 3, 4, and 5

At Dum-Dum, Barracks Nos 1 to 5, inclusive, only slightly injured.

Married men's Barracks seriously injured, to be repaired for shelter's sake, but afterwards abandoned.

the ventilator roof and the thatching of the main roof having been blown off, with other damages.

Barracks Nos 7, 8, and 9 complete wrecks; must be abandoned, and new permanent buildings erected.

wrecks, and must be without delay replaced by new married men's Barracks of a substantial nature with terraced roofs; and, in anticipation of orders from Government, the Garrison Engineer is collecting materials for the purpose.

have escaped with trifling injuries, and the repairs have been put in hand, but the married men's Barrack No. 6 has been most severely injured, the whole of

For the sake of shelter, the necessary repairs have been put in hand, but hereafter the building must be abandoned.

Nos. 7, 8, and 9 Barracks are complete

77. The thatched and tiled roofs of the minor buildings have all

All thatched and tiled roofs to minor buildings destroyed.

been more or less destroyed; but the repairs have been taken in hand.

78. The perusal of the damages recorded in the annexed Statement,

Severe effects of gale at Dum-Dum. Cost of repairs only estimated at Rs. 30,000, not including cost of new Barracks necessary.

buildings at Cossipore, may be estimated at Rs. 30,000; this does not, however, include the cost of constructing new permanent Barracks with the many minor buildings to be attached thereto.

will show how severe the effects of the gale were at Dum-Dum. The cost of the repairs at this Station, with the

79. At Cossipore the corrugated iron roof of the main Foundry has

Destruction of roofs at Cossipore Foundry Works proving that corrugated iron roofs are not suited to such a climate, and that permanent terraced roofs are in the end true economy.

the building altogether severely damaged. The smelting house, with

been to a great extent blown off. About 10 feet of the chimney is cracked, and is in a dangerous state; all the windows have been damaged, and

sheds, have had their roofs equally damaged, and there is no question as to the expediency and economy of abandoning these iron roofs and substituting permanent terraced roofs.

80. The Agency House has been but slightly damaged, but the
Agency House slightly damaged, but river bank eroded
action of the storm wave has carried away some 7 feet of the road on the river side with the three drains, and this land must be regained, as no indentations can be allowed for the tides to eddy in.

81. The Sergeant's quarters have been very severely injured; they
Subordinate's quarters much injured and new buildings necessary.
have been, however, already reported by me as unsuitable for the residence of Europeans.

82. One-half of the jetty has been
Jetty partly destroyed.
smashed by the Shipping being driven against it.

83. The other minor buildings have had their roofs blown off, and
Minor buildings much injured.
been more or less injured, proving the inutility of tiled roofs.

84. The effects of the gale on the Barracks at Chinsurah were most
Severity of gale at Chinsurah and consequent destruction
destructive, nearly 400 running feet of southern verandah were blown down, and considerable damages done to the remaining 500 running feet. The masonry in the Hospital has been seriously cracked, and a portion of the roof has fallen in. The Dutch Barracks has met with similar damages, and the Racket Court is in ruins. The tiled roof of the bakery is in ruins, and must be re-built.

85. The Field Officer's quarters, fourteen to seventeen inclusive,
Field Officer's quarters much injured and renewal recommended.
have been much damaged, and as they are not worth repair, and are moreover not required, they will be abandoned, and a special report is ready for submission on the subject.

86. The Officers' Barrack has
Officers' Barrack slightly damaged.
suffered slightly only, and repairs are in hand.

87. The minor buildings have suffered principally in their roofs,
Roofs of minor buildings blown off, because tiled.
which being of tiles were necessarily blown off.

Old Church much injured, but repairable.

88. The Old Church has been severely tried and damaged, but repairs will render it efficient.

89. The fine old trees in the avenues and Cantonments have almost all been blown down, and the picturesque appearance of the place destroyed.

90. The Garrison Engineer is a clear-headed and energetic Officer, but in such a crisis there is manifestly a limit to an Officer's powers : and with the hourly calls from the Officers in every Department for immediate repairs and re-construction of every style of building, he must be tasked beyond endurance. Being of opinion that he can only attend to the efficient repairs of the buildings in the Fort, the maidan drainage, the Fort water supply, the requirements at Balleegunge, Alipore, Kidderpore, and Cossipore, I strongly urge that a really experienced and energetic Officer be at once ordered to take charge of Barrackpore, Ishapore, Chinsurah, and Dum-Dum until the repairs are carried out and the new Barracks are built; and he will of course be aided by the Garrison Engineer's knowledge of the requirements; or an intelligent Assistant Engineer should be placed at once in charge of Barrackpore, Ishapore, and Chinsurah, and another at Dum-Dum; but these must be experienced Officers and working men.

91. The following is an approximate estimate of the cost of executing repairs, viz :—

Approximate estimated cost of executing repairs, not including re-construction of buildings irreparably damaged, 3½ lakhs of Rupees.

Fort William -	Rs. 30,000
Cooly Bazar,	
Alipore, and	
Balleegunge „	20,000
Barrackpore and	
Ishapore - „	2,50,000
Dum-Dum and	
Cossipore - „	30,000
Chinsurah - „	15,000
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Total Rs. -	3,45,000, or 3½ lakhs.

This, however, does not include the re-construction of the larger and minor buildings irreparably damaged.

92. It will, I consider, be well if a Special Committee be convened to submit, for the consideration of Government, a report of what buildings should be repaired and what should be abandoned, and new substantial and in the end more economical structures substituted, as no more fitting opportunity will be afforded.

93. The special report on the several embanked districts, with elucidations, will be submitted as soon as possible.

STATEMENT A

Showing additional requirements owing to the destruction of Roads, Bridges, Drains, and Buildings in First Division Grand Trunk Road, by storm on the 5th October 1864.

FIRST DIVISION GRAND TRUNK ROAD.

	Rs.	As.	P.	Rs.	As.	P.
Repairing breaches on roads -	1,500	0	0			
Additional repairs to drain bridges -	1,500	0	0			
Ditto ditto to Mugra, Sautgong, and						
Nyaseerie Bridges -	1,400	0	0			
Additional repairs to Ballee Khal Bridge -	300	0	0			
Purchase of two small boats and cost of large						
boat at Phulta Ferry to replace those lost	2,000	0	0			
Road Chowkies in addition to annual repairs	2,500	0	0			
Unforeseen repairs -	1,500	0	0			
Total additional expense required for Grand						
Trunk Road -				10,700	0	0

HOOGHLY.

	Rs.	As.	P.	Rs.	As.	P.
Additional repairs to Hooghly College -	7,000	0	0			
Ditto ditto to Branch School -	1,500	0	0			
Ditto ditto to Collectorate and out-offices -	3,000	0	0			
Ditto ditto to Circuit House, old Judge and Magistrate's Cutcherry with buildings -	1,800	0	0			
Ditto ditto to Dacoity Commissioner's or present Circuit House -	2,500	0	0			
Ditto ditto to Jail and its buildings -	1,500	0	0			
Unforeseen repairs -	1,200	0	0			
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Total additional expense required for Civil buildings at Hooghly -				18,500	0	0

SERAMPORE.

Magistrate's Cutcherry and Jail buildings -	800	0	0			
Ditto Residence -	1,600	0	0			
Secretary's house occupied by Dr. Bray -	600	0	0			
Out-offices in these compounds -	2,500	0	0			
Deputy Magistrate's Cutcherry -	200	0	0			
Church -	300	0	0			
Unforeseen repairs -	600	0	0			
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Total additional expense required for Civil buildings at Serampore -				6,600	0	0
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OOTERPARRAH.

				Rs.	As.	P.	Rs.	As.	P.
School	-	-	-	300	0	0			
Post Office	-	-	-	400	0	0			

Total additional expense required for build-

ings at Ooterparrah - - 700 0 0

Total additional expense required in First

Division, Grand Trunk Road - 36,500 0 0

Detailed estimates will be made out for each work of the probable expense that will be incurred, this Statement being an approximate one.

E. ROOKE,

Exc. Engr., 1st Division G. T. Road.

RANEEGUNGE, }
10th October 1864. }

W. D. SHORT, *Lieut. Col., R. E.*

Supdg. Engr., Presidency Circle.

No. 1 OR CALCUTTA SUB-DIVISION, WEST.

Statement showing the names of Buildings damaged by the Gale of the 5th October 1864, the probable cost of repairing the same, and the general report of the nature of damages done to each.

No.	Names of Buildings	Nature of Damages	Probable cost of Repairs.			REMARKS.
			Rs.	As	P	
1	Government House	Eighty-seven venetian leaves, twenty-seven sunshades, fourteen sash-doors, jhilmills of south-east wing, and 1,332 pieces of panes of glasses blown down. Good deal of sand-plastering stripped off and sand rubbing on south sides (which has been executed) injured and to be made good. Lightning conductors to be repaired and re-fitted; several trees and plants of the garden to be re-set	4	500	0 0	Contractors have put in hand this work.
2	Government House Out-offices	Several venetian windows and jhilmills require renewals, coach-house and cook-house gates require renewal, sand-plaster to outer walls in many places require renewal	1,325	0	0	
3	Governor General's Body Guard House.	North gate has been blown down, requires renewal, and the eastern one requires repair, seven venetian windows require renewal and some repair; sand-plaster here and there to be required	264	0	0	
4	Government Medical Store Department.	Sky-lights over roof are partly damaged; several venetian windows, one leaf of north gate, and jhilmills require renewals; several planes of glass to be renewed, sand-plaster in many places stripped off, verandah railing on north side requires renewal	350	0	0	
5	General Treasury Buildings	The shed over the entrance, forty-two sunshades over windows, forty-five venetian leaves, and seven jhilmills require renewal, sand plaster in many places to be repaired, the lightning conductors are to be repaired and put up, the wood shed on west side of north-west wing third floor to be repaired and partly renewed, cracks over arches are to be repaired and one arch to be renewed	3,200	0	0	

6	Money Order Office or late Civil Auditor's.	Great deal of sand-plaster in both outer and inner walls to be repaired, several arches are cracked and one has bulged out. The stair-case is unsafe, to be secured. Two jhilmills of south verandah are blown down, four venetian windows and ten sunshades require renewal.	450 0 0	The bulged out arch has been re-placed by the Contractors.
7	Town Hall and Out-offices	Fifteen venetian window leaves, two fan-lights, tiled roof of out-offices, and sand-plaster in many places to be renewed.	790 0 0	
8	Legislative Council Office ...	Two jhilmills and two leaves of venetian windows require renewal, and outer sand-plaster in many places stripped off.	290 0 0	
9	Bengal Secretary's Office	Venetian doors, windows, sunshades, and sashes require renewal, and some require repair.	750 0 0	Estimate for this work has been submitted,
10	St. John's Church	One jhilmill of the eastern verandah blown down, ten venetians, canvas screens, and twenty-four pieces of jhilmills to sky-lights require renewal; a portion of palisading railings on south-east and west side require repairing.	1,400 0 0	
11	Foreign Office and Out-offices	Almost all the sunshades on south side are blown down, two bath-rooms on the third floor verandah blown down, many panes of glasses to be supplied, shed over the portico and another shed over the Press shed near bath-room to be renewed, sand-plaster in many places to be repaired, jhilmills of verandah require renewal. Five beams of the second floor verandah are unsafe, required to be propped up, one gate leaf to be renewed.	4,700 0 0	Estimate for this work has been submitted, and the work has been also commenced by the Contractors.
12	Stamp, Stationery, and Collector's Offices or old Mint premises	Eight sunshades, eastern shed, and another shed on west of Collector's Office, twenty-five venetian window leaves, western gate, all require renewal; several panes of glasses to be supplied, and sand-plaster to be renewed.	1,500 0 0	
13	Late Government Steam Boat Office.	Some sand-plastering stripped off; two jhilmills and two venetian window leaves require renewal. The mural wall on south-west corner to be renewed.	800 0 0	This house has been let out to Messrs Moran and Company.
14	Post Office Buildings ...	Four Grecian tiled sheds require to be thoroughly repaired, a portion of wall of coach-house to be re-built, an wooden shed over door attached to the Post-Master's quarter to be renewed, several doors and venetian windows require renewal, balustrading on east side to be renewed, and sand-plastering here and there to be renewed.	1,300 0 0	
15	Revenue Board Office ...	Seven jhilmills, twelve venetian leaves, and four sunshades require renewal; lightning conductor to be repaired and straightened; sand-plaster in many places and panes of glasses to be re-placed.	590 0 0	

Statement showing the names of Buildings damaged, &c.,—continued.

No.	Names of Buildings.	Nature of Damages.	Probable cost of Repairs.			REMARKS.
			Rs.	As.	P.	
16	New Opium Godowns ...	Few fan-lights require repair, and several panes of glasses require to be re-placed	75	0	0	
17	Military Pay, or House No. 3, Bankshall Street.	Shed over the entrance door, three jhilmilla, eight sunshades, eighteen leaves of venetian, and several panes of glasses require renewal; sand-plastering in many places stripped off.	750	0	0	This work is not required, as the upper story is to be constructed shortly, for which the fan-lights are to be taken and done away with.
18	Koylaghat, House No. 1 ...	This building has suffered very slight damages	50	0	0	
19	Ditto, ditto " 2 .	Some of the venetian windows require renewal as well as gumla ventilators over the pent roof, sand-plaster in many places require to be renewed.	150	0	0	
20	Ditto, ditto " 3 ..	Canvas portico shed to be repaired and some venetian doors to be renewed, several panes of glass to be supplied; sand-plaster in many places stripped off.	200	0	0	
21	Military Accountant's Office...	Jhilmilla of verandah and venetian windows blown down, a portion of terrace roof requires to be renewed, mural tiled roof of stables to be repaired thoroughly, several panes of glass to be renewed, and plaster in many places stripped off.	800	0	0	Estimate for this work has been submitted.
2	Custom House Buildings ...	Two sky-lights over main roof to be renewed and several others to be repaired, several venetian windows and sunshades require renewal, three compound gates, a portion of railing over old portico, a portion of balustrading and sentry boxes are to be renewed; several panes of glasses to be renewed, and plastering in many places stripped off	2,000	0	0	
3	Custom House new Sheds ..	A portion of the western wall of shed No. 4 is blown down, which was in progress.	850	0	0	
4	Old Opium Godowns in the Custom House premises.	Several sky-lights over roof more or less damaged, many panes of glass to be fitted to them; sand-plaster of walls to be renewed.	350	0	0	
5	Custom House Shed on the Strand.	Very little damage done to the roof of this shed	70	0	0	
6	Farlie Place Shed on the Strand	A portion about 900 superficial feet roofing to be renewed, and the embankment on the west side of it to be repaired.	850	0	0	

27	Writers' Buildings . .	Some venetian windows and large and small sunshades require renewal and others repair; sand-plaster in many places stripped off, lightning conductors to be repaired and fitted	3,000 0 0
28	St Andrew's Church	Eight venetian windows to be renewed and some to be repaired, a portion of the western shed to be renewed, several panes of glass to be renewed, gumla ventilators to be re-placed, sand-plaster here and there to be renewed.	250 0 0
29	Police Office Buildings and Out-offices.	Ten jhilmills and some venetian windows and sunshades are to be renewed and some require repair, sand plaster in many places to be renewed, several panes of glass to be re-placed	1,500 0 0
30	Lock-up House . .	Some venetian windows require repair, and plastering in many places to be renewed.	100 0 0
31	Silver Mint and Out-offices . .	Nurtial tiled shed of Sepoys' room to be repaired, corrugated iron roof of Guard-shed to be re-fixed, shed over the ladder of Mint Master's room to be renewed, four jhilmills, three doors, and the sunshades of Mint Master's Office to be renewed, seven venetian windows of Warder's room at the entrance to be renewed, sand-plaster in many places stripped off, and several panes of glasses to be renewed.	2,000 0 0
	New Copper Mint	Corrugated iron roof of almost all the sky-lights blown down as well as the ridge of the laminating room, three leaves of venetian windows to be renewed and seven repaired.	4,000 0 0
32	Dhoney Office . .	Portion of the tiling of roof to be repaired and the whole roof to be scoriey plastered.	150 0 0
33		Total. . .	38,854 0 0

W. D. SHORT, *Lieut. Col., R. E.,*
Supdg. Engr., Presidency Circle.

W. R. G. HICKEY,
Executive Engr., Presidency Division.

ISSEN CHUNDER SIRCAR,
Assistant Supervisor.

No. 2 OF CALCUTTA SUB-DIVISION EAST.

Statement showing the names of Buildings damaged by the Gale of the 5th October 1864, the probable cost of repairing the same, and the general report of the nature of damages done to each.

DATED THE 18TH OCTOBER 1864.

No.	Names of Buildings.	Nature of Damages.	Probable Cost of Repairs.	REMARKS.
1	Female School ..	The large entrance gate blown down and will have to be renewed, as also two coach-house doors, five Corinthian pillars destroyed, arches over the gate-ways of the coach-houses cracked, five pairs of venetian doors blown down, which are to be re-fixed and repaired, the sky-lights slightly damaged, the compound gate of the Head Master's quarters to be repaired, and sand-plaster inside and outside, measuring about 1,000 superficial feet, to be renewed	Rs. As P. 450 0 0	
2	Manicktollah Distillery ..	The roofs of the Distillery sheds blown off in several places, seven venetian doors in the Darogah's quarters completely broken off, three large trees fallen down, the entrance gate damaged, and about 4 000 superficial feet of sand-plaster stripped off.	700 0 0	
3	Colootollah Branch School ..	This building has suffered very little damage, the roof of the tiled verandah on the south side partially damaged, and portions of outside and inside plaster broken down	25 0 0	
4	Hindoo College and Sanscrit College.	The compound railings have been blown down on the public street in many places, the two lightning conductors tumbled down. capitals of pillars entirely damaged, twenty-two pairs venetian doors (most of which are to be renewed) blown off; two sun-shades to be renewed and others to be repaired, the sky-lights to be repaired One panelled partition to be re fixed, punkhas to be repaired, the walls and arches of the out-houses to be renewed in several places fallen trees to be removed, and about 7,000 superficial feet of sand-plaster to be renewed.	1,600 0 0	It is necessary to remove the railing from the road and place the same within the compound at once.

5	Medical College Hospital ..	One of the cooksheds entirely destroyed, and the other two severely damaged, five venetian doors have been broken down, the canvas screens on the west verandah of first floor to be renewed, the sky-light over gallery to be repaired, wire nettings on openings to be repaired; the roof of the servants' houses blown off.	2,000 0 0	The two cooksheds are being repaired by order of the Superintending Engineer and are nearly completed.
6	Ditto ditto Buildings ..	Forty-eight pairs of venetian doors blown off, most of which are to be renewed, eight canvas screens are to be repaired, most of the glazed doors to be repaired; wire nettings to be repaired, twelve sunshades to be renewed, many of the verandah jhilmills to be renewed and others to be repaired, the verandah in the third story of the Principal's quarters entirely gone, the wall and arches both of the main buildings and out-houses cracked and will have to be renewed; about 12,000 superficial feet of sand-plaster to be renewed, the roof of the tiled out-houses entirely blown off. Fallen trees to be cut and removed.	5,000 0 0	
7	Mudressa College ..	Two pairs venetian doors to be renewed, two lightning conductors to be repaired, cracks in arches and walls to be repaired in many places, walls of some of the out-houses to be renewed, compound rails blown down in many places to be repaired; about 2,000 superficial feet sand-plaster to be renewed	1,000 0 0	
8	Sealdah, House No. 1 ..	Thirteen venetian doors blown off, many of which are to be renewed, about 5,000 superficial feet sand-plaster to be renewed, many of the doors of the out-houses damaged, and one of the servant's houses has been entirely blown down	750 0 0	Occupied by the Calcutta and South-Eastern Railway Office.
9	Ditto ditto No 2 ..	Seven pairs of venetian doors are to be renewed, one coach-house gate blown off, many of the out-office doors damaged, and about 1,000 superficial feet of sand-plaster to be renewed.	400 0 0	Temporarily occupied by the Sealdah Joint Magistrate while his Court House was undergoing repairs
10	House No. 1, Lower Circular Road, Sealdah	Five pairs of venetian doors entirely damaged, three glazed doors blown off, the jhilmill of the portico doors of the out-houses mostly damaged, and cracks in masonry to be repaired, and a good deal of sand-plaster gone.	350 0 0	Occupied by the Joint Magistrate's Court and residence This house has lately undergone thorough repairs
11	Honse No 2, Lower Circular Road	The entrance gate broken down; three pairs of venetian to be renewed and many others to be repaired, cracks in walls of out-houses to be repaired, some of the out-office doors broken, and about 4,000 superficial feet sand-plaster to be renewed	350 0 0	Occupied by the Small Cause Court of Sealdah and the Judge's residence.
12	House No. 3, Lower Circular Road	Venetian doors to be repaired, east verandah fallen down entirely, the gate to be repaired, some of out-office doors to be repaired, and a portion of the sand-plaster of the compound wall have fallen off	400 0 0	This house is let to Messrs Marillier and Edwards.

No.	Names of Buildings.	Nature of Damages.	Probable Cost of Repairs	REMARKS.
			Rs. As. P.	
13	Police Hospital, Intally ..	The south verandah roof entirely blown off, four batten doors and one glazed doors to be renewed and some others to be repaired. Two of the out-houses blown off entirely, and the others partially damaged, the compound on the east side broken down; the entrance gate to be repaired.	800 0 0	.
14	Bishop's Palace	The two bath-rooms in third story entirely destroyed; six sun-shades are to be renewed, two others to be repaired; one pulmill of the south verandah to be renewed; the venetian windows on the east side to be repaired some out-house doors to be repaired, about 2,000 superficial feet sand-plaster to be renewed.	850 0 0	
15	Small Cause Court, Calcutta .	The entrance gate partially damaged, many trees fallen down, the whole of the verandah of the second story broken down, seven pairs venetian doors to be renewed and others to be repaired, most of the glazed doors to be repaired, one stair-case of the verandah to be repaired, the verandah and a portion of the walls of the attached (rented) house fallen down, and out-house doors partially damaged, and sand-plaster in several places gone.	2,700 0 0	
16	Town Guard House	Three pairs of venetian windows broken down and some others to be repaired, portions of roof of the cook-house blown off, and sand-plaster, about 500 superficial feet, stripped off.	100 0 0	
17	Colootollah Buildings ..	Very little damage has been done to these except some partial repairs.	200 0 0	
18	Lower Circular Road Burial Ground	A great portion of the sand-plaster of the compound wall broken down, measuring about 4 000 superficial feet.	100 0 0	
19	Park Street Burial Grounds..	A portion of sand-plaster of the compound wall broken down, and some damages of the doors of the vestry rooms done	100 0 0	
		Total ..	17,875 0 0	

W. D. SHORT, *Lieut Colonel, R. E.*,
Supdy. Engineer, Presidency Circle.

W. R. G HICKEY.
Executive Engineer, Presidency Division.

NOYANCHUND CHATTERJEE
Overseer.

1ST SUB-DIVISION, PRESIDENCY DIVISION.

Tabular Statement of Damages done by the Storm of 5th October 1864.

No.	Names of Buildings.	Brief detail of Damages.	REMARKS.
1	Belvedere Estate main building	Many panes of glasses, iron palisading, plastering, and a few doors injured slightly, planked verandah and rain-gutters blown away.	Average cost of damages Rs. 1,500. Estimate prepared and submitted, and works nearly completed by Contractor.
	Ditto	Panes of glasses, one door, and sand-plaster	
	Ditto	Canvas purdahs all round blown and side framing injured	
	Ditto	Very slightly at one corner ..	
5	Stable and Coach-house range...	By the fall of a tree, cornice and roof and purlins and beams injured	
	Out-offices	Sand-plaster only a little	
	Mallee's house	Roof of grass all blown away	
	2nd ditto	Walls all down and roof of grass blown away...	
	3rd ditto	Roof of grass all blown away	
10	Garden house	Two or three doors broken, also hinges, panes of glass, and plaster	
	Durwan's house	Much injured, masonry cracked	
	ditto Octagon ..	Gate slightly injured	
	Fowl and Sheep house	In good order	
	Privy ..	Ditto	
	Main Gateway, Guard-rooms	Panes of glass only	
15	Compound walling	Very much destroyed by falling of trees...	
17	ditto Bamboo palisading ..	All down, and many posts broken	

Tabular Statement of Damages, &c.,—continued.

No.	Names of Buildings.	Brief detail of Damages.	REMARKS
1	Judge's Court, 24-Pergunnahs, main building	Verandah blinds one, one canvas screen room, many panes of glass in doors and sky-lights, ventilator gumlas blown off; many doors, venetian and glazed, injured and blown off, and many brass door-locks and crossbars, iron, of doors, bent and broken; part of a sunshade and jhamps blown away, and sand-plastering off.	Average cost of damages done about Rs. 500.
	Ditto ditto Pleaders' building	Many panes of glass and number of door hinges broken, and doors, panel and glazed, injured, and iron door-bars bent.	
	Ditto ditto Coach-house & Stabling	One door slightly injured	
5	Ditto ditto Privy for Europeans	In good order	
	Ditto ditto Privy for Natives	Ditto	
	Ditto ditto 2nd Coach-house & Stabling	Some slight sand-plaster only	
7	Ditto ditto temporary Sentry Box	Of mat, grass, and bamboos only, all blown down	
	<i>Collector and Magistrate's buildings.</i>		Average cost of damages done about Rs. 8,000.
1	No. 1 Range	(Suburban Tax Office Soonderbun Commissioner's Office Jail Press Office Joint Magistrate's Office	
	No. 2 Range	Panes of glass, five or six venetian and batten doors injured, and some sand-plaster	
		Many panes of glass, two or three venetian and batten doors, and a few hinges injured	

5	Stabling Range	...	...	One batten door and sand-plaster	...	...
	Cook-room	...	...	Sand-plaster only	...	...
	Coach-house	...	...	Ditto	...	...
	Tiled Shed, temporary	...	...	Tiles half blown away	...	...
	Godown Range	...	...	Batten doors slightly injured, and sand-plaster	...	...
	Durwan's house and gate	...	...	Batten door slightly injured, and some sand-plaster off	...	...
10	No. 4 Range { Additional Moonsiff's, Sud- der Armeen's, and Native .. Depy. Magistrate's Offices .	...	...	A few venetian, panel and batten doors injured; also some bolts and hinges and sand-plaster	...	...
	Cook-room	...	...	Some sand-plaster	...	...
	Stabling, temporary	...	...	Tiles blown off one-half, and frame-work injured	...	...
	No. 5 Range { Native Deputy Magistrate's Office	...	...	Two or three doors injured and some sand-plaster	...	...
	No. 6 Range { Collector's Court Bailiffs' Quarters Record Office	...	...	Some panes of glass, doorway, railing, and hinges broken; some ten or twelve venetian and glazed doors and hinges and hooks broken, wire netting of one door broken and sand- plaster, a temporary thatch verandah in Bailiffs' quarters blown away; some masonry of compound walling down	...	...
15	Out-offices, Godowns, &c.	...	...	Sand-plaster only	...	...
16	No. 7 Range { District Superintendent of Nuddea Rivers and other Offices.	...	...	(This building much injured, walls being of bricks cemented with mud and rain water has penetrated through, walls are cracked, and timber of verandahs are shipping away. Dangerous to occupy it. Upper portion of walls, &c, should be removed and re-built, if the lower portion is strong and sound	...	...
1	Alipore Magistrate's dwelling house	...	...	More than 100 panes of glasses broken, door bars bent, ten or twelve sunshades blown down, a fine panel vent and glazed doors unhinged, balustrade parapet walling blown off in part about 50 feet, planked roof of portico injured, and sand-plaster.	...	...
	Ditto	...	...	Three doors blown out and sand-plaster	...	...
	Ditto	...	...	Goleputta roofs blown away, and tiled roof portion partly injured, and some masonry work injured also, and sand-plaster	...	...
	Ditto	...	...	One door blown out and injured	...	...

Estimate prepared.

Average cost of damages
done about Rs. 500.

Estimate prepared.

Tabular Statement of Damages, &c.,—continued.

No.	Names of Buildings.	Brief detail of Damages.	REMARKS.
5	Alipore Magistrate's Guard house Ditto ditto Stabling Ditto ditto Durwan's house Ditto ditto Compound wall	Repairs to sand-plaster only Some tiled roof slightly injured Roof injured A good deal of wall blown down and injured by the fall of trees.	Estimate prepared.
1	<i>European Lunatic Asylum.</i> Main Building	Lightning conductor blown out of wooden socket and bent, portaco injured, four venetian screens blown out, nine sunshades injured, one glazed door, one venetian door, six panelled doors, &c.	Average cost of damages done about Rs. 300.
5	Cook-house Stabling and Coach-house No 1 Range, Female Ward Ditto No 2 Range { Privies Wash-house No 3 Range { Male Asylum Privies Cook-house No 4, Keeper's and Assistant Range	Plaster only, and petty masonry repairs Sand-plastering and two panelled doors injured In upper story three pairs of doors blown out and hinges broken In fair order In good order Ditto Interior plastering in rooms fallen and light repairs to doors In good order Sand-plaster and one door injured Some doors blown out and injured, also hinges broken and sand-plastering. Doors and windows and sunshades injured, and sand-plaster One verandah blind blown out, and sand-plaster	Estimate not yet prepared.
10	5, Guards-house at gate 6, Violent Patients' Range		

15	" 7, Male Asylum Range ... " Privies ... " 8 Range, out-offices ... " 9, Godown Range ... Compound walling ... Native Privy enclosure	Interior plastering much injured, and exterior stand-plaster also... In good order ... Some doors injured and sand-plastering also ... This range appears much injured, plaster all loose, walls cracked, it may be necessary to re-build this. Plastering a good deal off ... Walls injured more or less ...	Average cost of damages done about Rs. 200.
19				
<i>Native Lunatic Asylum.</i>				
1	Superintendent's Quarters	Five sunshades blown down and some panes of glass broken	Average cost of damages done about Rs. 200.
5	Cook-room ...	...	In good order ...
	Out-offices ...	...	Ditto ...
	No 1 Range, Male Wards Square	...	A few batten doors and windows slightly injured	
	" 2 Ditto ditto	...	Ditto ditto	
	" 3 Ditto ditto	...	In good order ...	
10	" 4 Ditto ditto	...	Ditto	
	" 5 Ditto ditto	...	A few doors injured	
	" 6 Ditto ditto	...	Good order ...	
	" 7 Ditto ditto	...	Ditto	
	Cook-rooms ...	...	Sloped tiled flat roofs partially injured
15	No 1 Range, Female Wards	...	A few pairs of batten doors broken off and some hinges broken ; sand-plastering interior and exterior.	Estimate not yet prepared.
	" 2 Ditto, ditto	...		
	" 3 Ditto, ditto	...	In good order ...	
	Cook-room ...	...	Ditto
	Guard-room ...	...	Ditto
18	Ditto	...	A good deal of sand plastering off	
	Compound walling ..	...	...
1	St. Stephen's Church, Kidderpore	...	Top of spire, some twelve feet high, blown down ; sky-light on roof, zinc roofing blown away, tops of all pinnacles above parapet walls blown down, one door of vestry room injured, and a good deal of plaster work ...	Average cost of damages done, Rs. 800.

Tabular Statement of Damages, &c.,—continued.

No.	Names of Buildings.	Brief detail of Damages.	REMARKS.
5	St. Stephen's Church Compound	Wire fence blown down	Estimate not yet prepared.
	Ditto ditto	Parsonage house In fair order, slight repairs to doors, and some panes of glass injured.	
	Ditto ditto	Out-offices In good order	
	Ditto ditto	Cook-room Ditto	
	Ditto ditto	School-room Some masonry of roof blown down, also cornice work and some plastering	
	Ditto ditto	Privy In good order	Average cost of damages done, about Rs. 6,000
	High Court, Dullunda, main building	Very considerably damaged, a number of venetian and glazed doors and hinges blown out and broken, many panes of glass and of the whole length of verandah Screen blinds between pillars as sunshades to a depth of one-half or more blown out and more or less destroyed, and in parts all blown out, and all the plastering of all the pillars blown off, and sky-lights and sunshades blown away.	
	Ditto ditto	covered passage to range of Pleaders' rooms This is entirely blown down and the planked roofing very much injured.	
	Ditto ditto	Pleaders' rooms Not very much injured, a few doors broken and some panes of glasses	
	Ditto ditto	Bailiffs' Quarters Ceiling cloth injured, one venetian door and door-bars bent	
10	Ditto ditto	Out-offices Tiled roofing blown away entirely	Estimate not yet prepared.
	Ditto ditto	Cook-room In good order	
	Ditto ditto	Privy Ditto	
	Ditto ditto	Main Building Out-offices	
	Ditto ditto	Offices	

Stabling	...	Tiled roof portion blown down	...	Average cost of damages done, about Rs. 70,000.
Coach-house	..	In good order, sand-plaster more or less blown off	..	
Guard-room	..	Ditto	..	
Office ditto	..	Ditto	..	
Pivvy	..	Ditto	..	
Two Durwans' two houses	..	Ditto	..	
Gateways	..	Ditto	..	
Compound Iron Railing	..	Ditto	..	
Ditto Walling	..	Ditto	..	
	..	Ditto sand-plaster repairs	..	
<i>Dock-yard, Kidderpore.</i>				
Master Attendant's House	...	Iron balustrades and railings broken, eight or nine venetian doors broken, terrace, roof, parapet, walling, and wooden railings blown down. Many panes of glass broken. Walls very much cracked and separated, and interior plastering very considerably injured. This building should be surveyed, as it is much weakened.		
Out-offices	...	Some doors slightly injured and sand-plaster	...	
Cook-rooms	...	A good deal of plaster blown off, and repairs to doors required	..	
Durwans' houses...	...	Tiles all blown off	..	
Gate	...	The outer gate blown down and hinges broken	..	
Store-keeper's and Builder's Godowns.	...	Three sky-lights blown off and panes of glass broken	..	
Pitch house	...	This building is all down, walls and tiled roof	..	
Blacksmiths' Shops	...	Ditto	..	
ditto	...	Ditto	..	
Bombproof Buildings, 6	...	In good order	..	
Iron Shed, Store-keeper's	..	Tile roof injured, sky-lights and panes of glass broken, and masonry walls between pillars much injured	..	
Passage to Iron Shed, &c.	...	Tile roof and timber all blown away	..	
Divers' Sheds	..	Flat tile and tile roofing all blown off	..	
Dock-engine house	..	Masonry walls cracked, chimney blown down	..	
				Estimate not yet prepared.

Tabular Statement of Damages, &c, —continued.

No.	Names of Buildings	Brief detail of Damages.	REMARKS.
<i>Dock-yard, Kudderpore —contd</i>			
	Master Attendant's House, Builder's and Surveyor's quarters, and Sailmaker's quarters.	Goleputta roof up-stairs blown away, and masonry pillars blown down, panes of glass broken, doors, screens and sunshades much injured, and planked roof of verandah partly destroyed, masonry walls injured in places . . .	
	Ditto ditto Stabling . . .	Goleputta roof very much destroyed . . .	
	Issue Godown and Police Inspector's quarters	Sunshades blown away, planked verandah roof separated from wall some doors injured . . .	
	Assistant Builder's Quarters . . .	Sunshades blown away, planked verandah fallen down, some panes of glass broken, and doors unhinged, terrace roof much injured . . .	
	Chain Shed . . .	South tiled roof partly injured, tiles blown off . . .	
	Sail Loft . . .	One door broken off, others injured, and north window batten shutters blown away . . .	
	Builder's moulded Shed . . .	Tile roof more or less injured . . .	
	Boat Shed . . .	Ditto . . .	
	Saw Pit Sheds . . .	Ditto . . .	
	Four temporary Sheds . . .	Goleputta roofs much injured . . .	
	Builder's Steam Kln . . .	Chimney down, planked roof partly off . . .	
	Iron Work Department, No 1 Shed . . .	South tiled roof slightly injured and panes of glass broken . . .	
	Ditto . . .	Tiles of both roof very much displaced, and panes of glass in sky-lights much injured . . .	
	Ditto . . .	Tile roof supported on compound wall all down . . .	
	Range of Blacksmiths' Shed . . .	Tile roofs very much injured . . .	
	No. 1 Coal Shed . . .	All blown down, was supported in posts . . .	
	" 2 . . .	In good order . . .	
	Temporary Store Shed . . .		
	Dock-yard Coal Jetty . . .		

Estimate not yet prepared.

			Estimate not yet pre- pared	
Dock-yard Superintendent's Office	...	Four sky-light coverings blown away and panes of glass broken, one stair-case door broken, four venetian doors broken, one panel door broken. Many panes of glass injured ...	...
Ditto Out-Offices	...	Tiled roof and mat jhamps of sides injured ..	...
Ditto Blacksmiths' Forge No. 1	...	Corrugated covering of sky-lights blown away, zinc gutters at eaves injured, and fixed jhulmills sides injured ..	...
Ditto ditto	2	Zinc covering of planked roof injured and partly blown off, plank- ed roofing injured, six or eight rafters and pulins broken at their ends. Zinc gutters at eaves broken and chimney fallen in Tiles of roof much injured, and some wood-work of roof also .	...
Ditto ditto	3	Slight damages to plaster and batten doors .	...
Ditto Punching Shed	4	Eleven glazed window frames blown away, many panes of glass broken, one semi-circular jhulmill top of glazed window off, and hinges, &c, broken. ...	...
Ditto Vice Loft	5	Tile roof much injured	...	
Tiled Shed at corner	..	One batten door, large, injured	...	
Moulding and Pattern Shed	...	Two sunshades blown away, parapet walling and balustrades much injured, two jhulmill blinds blown down, thirty glass doors more or less injured, and two panes of glass broken, twelve ve- netian doors injured, and some pannel doors unhinged. Balus- trade around portico top all down, and a good deal of sand- plastering	...	
Ditto Out-offices	...	Tiling of roofs displaced	...	
Cook-room	...	One door slightly injured	...	
Gate	...	In good order	...	
Compound Walling	...	A good deal of sand plaster ..	...
Great Jail Premises	...	About 150 feet in length, the north-east back wall dividing these premises from the House of Correction, has fallen down to ground level, all the buildings have received slight injuries, the plastering of walls on the outside particularly. the com- pound walling very much stripped of their sand-plaster. The Superintendent's and his Deputy's quarters have suffered slight damages; glazed doors. venetian and panel doors, sunshades,	Average cost of damages done, about Rs 4,000.	

Tabular Statement of Damages, &c.,—continued.

No.	Names of Buildings.	Brief detail of Damages.	REMARKS.
		<p>and verandah jhilmil blinds blown off, and panes of glass broken a good many, the temporary work-shed tiled roof supported on iron posts, trusses, &c., has suffered, the tiles and mats blown off, and the iron posts all bent in their centre venetian screens injured. Balustrade wall partly destroyed by the falling of trees, &c. I have no time to particularize and show in detail the damage done to each separate building; this will follow in a few days.</p>	
	House of Correction Premises ..	<p>Here the damages done is principally to the Superintendent's quarters and his Overseer's quarters, in sunshades being blown away and venetian and glazed doors unhinged, panes of glass broken. In the wood-work of doors of prisoners' cells, &c., very light injuries, a good deal of sand-plastering from walls and roofs blown off, and some from the interior also; in all, the damages are light.</p>	Average cost of damages done, about Rs 1,500.
	Telegraph Dépôt Premises ...	<p>The tiled roof of No 1 range of building almost entirely blown off, of the other range, very slightly damaged, doors and windows of the Smiths' and Carpenters' sheds, store godown and out-offices have received slight injuries, and iron railing partly blown down.</p>	Average cost of damages done, about Rs. 3,000

Clothing Agency Buildings	These buildings have not suffered very much, some panes of glass, a few doors and windows blown off their hinges, and some tile roofs of out-offices, and goleputta roofs blown off Subordinates' quarters within the premises have suffered similarly.	Average cost of damages done, about Rs 1,000
Watgunge Police Inspector's House and Cook-room	Planked portico blown down, two doors broken off, panes of glass broken, sunshades carried away, balustrading blown down and sand-plastering.	Average cost, about Rs. 100.
Cooly Bazar—Two Store Godowns	The two new tiled roof buildings lately erected are somewhat injured, some masonry pillars crushed from extra pressure of the storm on the roof of iron trusses and purins, and a good deal of tiles and mats displaced The Lime Godown of mats, posts bamboos, and tiles are entirely blown down at the river side godown yard	Average cost of damages, about Rs 1,750.

I regret I have not time to give details briefly of damages to each buildings in each Department of the Great Jail Premises, House of Correction, Telegraph Depôt Premises, Clothing Agency Buildings, Watgunge Police Inspector's quarters, and Cooly Bazar Store Godown. The detailed report as of those above these will follow in a few days, as soon as I can spare time from my many duties to take the details of damages to each building.

F. W. MANN

The 20th October 1864.

ABSTRACT AMOUNT OF DAMAGES.

	Rs
Belvedere Estates	1,500
Judge's Court, 24-Pergunnahs	500
Collector and Magistrate's Courts, 24-Pergunnahs ..	8,000
Magistrate's Dwelling-house	500
European Lunatic Asylum	500
Native ditto	200
St. Stephen's Church and Parsonage	800
High Court, Dullundah	6,000
Dock-yard Buildings	70,000
Great Jail ditto	4,000
House of Correction Buildings	1,500
Telegraph Department Buildings	3,000
Clothing Agency Buildings	1,000
Watgunge Police Inspector's House	150
Cooly Bazar Store Godown	1,750
Total	99,200

W. R. G. HICKEY,

Offg. Exe. Engr., Presidency Dwn.

W. D. SHORT, *Lieut. Colonel, R. E.,*

Supdg. Engr., Presidency Circle.

No 4 OR HOWRAH SUB-DIVISION.

Statement showing the names of Buildings damaged by the Cyclone of 5th October, the probable cost of repairing the same, and the general report of the nature of damages and cost.

No.	Names of Buildings.	Nature of Damages.	Probable cost.	REMARKS.
1	Ghoosery Salt golahs and buildings	Venetian sashes broken, jhulmills, rails, and roof much destroyed, compound wall, godowns, and portico partially fallen down. Goleputta roof destroyed. River bank much eroded.	Rs. As. P. 8,000 0 0	
2	Sulkea Salt golahs.	Portion of the roof blown away and some brick-work broken, sand-plaster to be renewed in many places, panels, venetians, rails, and some glasses destroyed, the roofs of almost all the cutcha golahs will require renewal	11,000 0 0	
3	Howrah Magistrate's dwelling-house.	Walls broken in various places, sand and soorkey plaster, also a few batten venetian and panel doors broken, and many panes of glasses, many trees destroyed.	2,500 0 0	
4	Howrah Magistrate's Cutcherry	Sand-plaster in places to be renewed, number of venetian doors and shunshades as well as panel sashes destroyed.	2,000 0 0	
5	Golabary Police Station.	Few pairs of venetian doors, some glasses, and two goleputta sheds destroyed.	500 0 0	
6	Banda Ghât Police Station	Railing broken and a pair of venetian doors.	200 0 0	

No.	Names of Buildings	Nature of Damages.	Probable cost.	REMARKS.
			Rs. A. P	
7	Ramkistopore, Howrah, and Hurroogunge Pharies.	Part of tiled roof damaged.	20 0 0	
8	Howrah Church.	Much sand-plaster fallen off and two venetian doors and some glasses broken, some trees are also destroyed	500 0 0	
9	Old Burial Ground, Howrah.	Brick-work and plaster in small pieces broken, one venetian door and few trees destroyed.	100 0 0	
10	Howrah Post Office.	Cooking shed only injured	60 0 0	
11	Howrah Jail.	Four batten doors and sixteen windows with some railing gone. some trees destroyed.	700 0 0	
12	Howrah School.	No injury done.		
13	Botanical Garden and house.	Many venetian doors and windows destroyed, sashes and sun-shades broken, railings broken A serious crack has occurred in eastern wing, much plaster fallen off, three sheds entirely gone, three panel doors and plaster destroyed Various trees destroyed	12,980 0 0	
		Total	38,560 0 0	

W R G HICKEY,
Executive Engineer, Presidency Division.

W. D. SHORT Lieut Colonel R E,
Supdg. Engr, Presidency Circle.

From C F. MONTRESOR, Esq., Commr. of the Burdwan Division, to Secy. to Govt. of Bengal,—(No. 169, dated 23rd November 1864.)

In continuation of this Office letter No. 160, dated 6th instant, I have the honor to submit, in original, two Reports just received from the Magistrates of Howrah and Midnapore on the subject of the damage caused by the late Cyclone, which give further information than that already furnished

2. I purpose proceeding this day to inspect the part of the country in which the distress appears to have been the greatest in this Division, and to ascertain what arrangements can be made for the providing of water in those parts where the tank water has been injured.

3 I would mention that the baling out of water from the tanks, before means are discovered for replenishing them, appears to me as uncautious a measure as would be their excavation, which, I am aware, in those parts invariably terminates in the water percolating through the soil for several months, even years, before the tank will hold.

From E C CRASTER, Esq., Magistrate of Howrah, to Commr of the Burdwan Division,—(No. 525, dated 15th November 1864.)

In continuation of my letter No. 501, dated 28th ultimo, I have now the honor to submit a report on the effect of the Cyclone of the 5th ultimo in this district generally, and the loss of life and destruction of property which it caused therein. Annexed are a report and enclosures, in original, on the same subject, from Mr King, District Superintendent of Police.

2. The loss of human life shown in the Returns furnished by Mr. King is very large, excluding the 10 persons belonging to the town mentioned in my previous report, not fewer than 1,965 human beings are reported to have perished during the storm. I confess that this loss of life, large as it is, falls considerably short of what I had feared might have been expected to have occurred, considering the suddenness, intensity, and manifold forms of the danger to which the inhabitants of that part of the district which has suffered most, were exposed, and the utter inadequacy to the occasion of any protective means at their disposal.

3. Take the case of the Village Koosberriah quoted by Mr. King in the 4th paragraph of his Report, which case cannot have been a whit worse than that of many others further to the south, and therefore even more exposed to the dangers which proved so fatal to the inhabitants of Koosberriah. On the day of the storm these unfortunate people were naturally sheltering themselves in their houses from the wind and rain; without warning, (not that that would have been of much use, for how were they to escape?) the deluge came upon them; not, as Mr King learned from the survivors, by any gradual rising of the flood, but instantaneously as a gigantic wave or wall of water. This wave appears to have come up the river simultaneously with the change of the wind from the east to south-east and south, and was probably caused by the occurrence of that change at or about the turn of the tide from the ebb to flow. However that may be, we know that the heaviest gusts of wind occurred the time of that change in its direction; these gusts not only blew down the houses upon their unfortunate inmates, already in the most imminent danger from the flood, but hurled a number of large peepul and other trees on the top of the fallen houses; it cannot be wondered at if few escaped from such perils. Mr. King's suggestion, that the ruins of this and other villages similarly circumstanced should be left until the weather is drier than at present, and then burnt, appears to be a good one.

4. Mr. King remarks upon the exaggeration of some of the reports of damage done in this district published in the Newspapers; on occasions like this it must almost unavoidably happen that such reports are in some respects exaggerated; in others, however, they as frequently fall short of the actual facts, and on the whole the balance of truth is thus pretty fairly adjusted. As regards the subject to which the reports alluded to by Mr. King had special reference, I believe, from all that I can learn, that the distress felt in this district was confined mainly to a short period immediately succeeding the day of the storm, when the survivors were in so many instances left without food and shelter for the time. Those who found themselves in this position left their own part of the country, and removed to villages lying further inland, which the flood had not reached, and there they found temporary support. Mr. King's report shows that in those villages there was no lack of means of subsistence; indeed, in Oolobarriah itself, severely as it suffered, he found rice selling at a Rupee a maund less than the Calcutta price.

5. That the inundated part of the country was thus temporarily deserted by its surviving inhabitants for the sake of relief to be found elsewhere, is undoubted. indeed, it is owing to this fact that my report has been delayed; those who then fled have only now returned, and until they came back it was impossible to ascertain in any manner, satisfactory or other, the number of those who had perished, even now we cannot be quite sure that the whole of those who are reported as missing have actually lost their lives. However that may be, it appears, from what I have learned, that distress for want of the necessaries of life was, as a rule, short-lived, and that means of relief were not long in being found.

6. I have much pleasure in bringing to the notice of Government that some at least of the Native landed proprietors in the district were not unmindful of their duties on this occasion, among them I would prominently mention Baboo Heera Lal Seal, the proprietor of a portion of the Mundul Ghat Pergunnah, who, as you will observe from Mr. King's report, sent large, and, what was more to the purpose, prompt assistance to the sufferers on his property. I have learnt that other Zemindars have also contributed aid, and that it is probable that remissions of rent on some of the estates will be very large; this, indeed, is almost a matter of necessity, but the mere announcement on the part of the Zemindars of their intention to remit is calculated to be of much service

7. You are aware that very soon after the occurrence of the gale, a Committee was formed in Calcutta for the purpose of raising subscriptions and relieving the sufferers by the storm. Immediately on hearing of its formation, I addressed a letter to one of the chief promoters of the scheme, bringing the case of the inhabitants of the southern part of this district to the notice of the Committee, and asking for a share of relief for them. This letter was read at the first meeting of the Committee, and as soon as possible afterwards supplies were landed, and a depôt formed at a village near Fort Morington by the Officers charged with the distribution of the Committee's bounty; the Police were directed to assist the Superintendents of the depôts in such manner as might be required.

8 I am happy to learn from Mr. King's report that, with the exception of the tract of the country actually swept by the inundation, the crops throughout the district appeared to be uninjured, and to have a promising and healthy look; those in the Shampore and the southern part of the Oolobarah Police Divisions were of course destroyed, the

Shamshere Division comprises all the country lying between the Roopnarain and Damooda Rivers in the lower part of their course and the Hooghly, the Oolobarah Division adjoins it on the north. The position of these parts of the country rendered them specially liable to danger from such a flood as rushed up the Hooghly on the day of the storm, and they suffered accordingly. The embankments, sufficient to protect the country at ordinary times, were on this occasion utterly useless, they were over-topped, breached, and more or less destroyed, and the country then lay at the mercy of the flood. It was devastated, but its destruction was in all probability the salvation of Calcutta. Had the volume of water which flooded the lower country been forcibly retained in the bed of the Hooghly, until it reached the point at which the embankments cease, the destruction of Calcutta would have been almost inevitable. Great as has been the damage done, it is very small as compared with what might have occurred had the flood not found vent for itself in the lower parts of the river; as the case stands, it is so far satisfactory to learn that, beyond the tract of country exposed to the direct action of the flood, the crops have not suffered from the storm.

9. The same may be said of the cattle; the loss in this description of property within the above-mentioned tract was very heavy; it was hardly possible, indeed, that any should escape; much, however, of the loss actually suffered in the district will not fall upon its inhabitants. As explained by Mr. King, a large number of the cattle destroyed by the flood were animals on their way from Midnapore and other districts to the Calcutta market, and only temporarily detained in or passing through this district.

10. In the 10th paragraph of his report the District Superintendent of Police notices one result of the storm which has doubtless attracted the attention of all whose duty it has been to consider the extent and nature of the damage caused; that is, the injury done to the tanks from which the inhabitants draw their supply of drinking water. This injury has been caused in two ways, *first*, by the number of trees and quantity of leaves and branches blown into the tanks and allowed to be there and rot; and *second*, by the salt water left in them after the subsidence of the inundation. The want of good water is undoubtedly one of the most serious evils which could befall a district in this country, and as such should, if possible, be remedied without delay. I think that a portion of the funds at the disposal of the Relief Committee should certainly be applied to the purifying of the tanks, and to the protecting of them as far as possible from the effects of any future storm.

11. I do not deny that there are difficulties in the way of carrying out this recommendation. The purification of the tanks can only be effected in one way, viz., by baling them out, and removing all the decayed and decaying trees and vegetation now lying in their beds; the water in them would thus of course be lost, and as it is positively injurious to health, its loss would be a gain; but the difficulty would be to find good and wholesome water to supply its place; in many parts of the country this unwholesome fluid is the only water to be had, and if it is thrown away, what are the people to do until the tanks fill again? Then again the protection of the tanks against similar catastrophes in future could only be effected by clearing all their banks of trees, and by raising mounds of earth around them to such a height as should ensure their safety from an inundation of salt water. Supposing that funds are provided by public liberality, has the Government the power to authorize the doing of this work? If they are not, can the Government compel the proprietors to do it themselves? If these difficulties could be overcome, the work of purifying and protecting the tanks in the tract of country exposed to the danger of inundation is one to which attention might well be devoted; there can be no doubt that it would be one of the most beneficial that could be undertaken.

12. In the 13th paragraph of his Report, Mr King remarks upon the Returns made by the Police of the estimated value of property destroyed, that they are not to be trusted. I need hardly say that they must be accepted with the largest possible allowances; the total amount of loss in this district is set down in them at 60½ lakhs; it may have been so, it may very possibly have been more; all that we can say positively about it is, that we have no certainly accurate idea as to what it was.

From R. W. KING, Esq, District Supdt. of Police, to Magistrate of Howrah,—(No. 524, dated 2nd November 1864.)

In accordance with your request, I have the honor to forward herewith my report of the destruction caused throughout the district of Howrah by the late Cyclone. A Tabular Statement is herewith appended, showing the loss of life, property, cattle, &c., from the same cause.

2. I have myself visited the southern part of the district, in which quarter the hurricane was most severely felt, and although doubtless a very heavy calamity has befallen the country, still it might have

been worse, and, as far as I have seen, we have great reason for thankfulness that the in-coming rice crop has suffered very slightly, if at all, excepting in those places over which the storm wave actually broke.

3. In the villages on the river side, and more particularly in those which lie to the south of Oolobariah, the loss of life has been very heavy. It appears, from what I gathered from the survivors, that the deluge came on them almost instantaneously, not by any gradual rising of the tide, consequently the women and children had no time to escape, but were drowned in their houses. In and about the villages above named, a large quantity of cattle were collected ready for the Calcutta market, these also were all swept away. I will just instance, as an example, and as I heard it from the royts, the manner in which Koosberriah (a village near Oolobariah), with its inhabitants, &c., was destroyed.

4. After the Cyclone had commenced, the women and children and many of the men took refuge within their houses. Almost in an instant, and without any warning, the water was over the village, and just about the same time the heaviest gusts of wind came, which threw down all the huts, so that the inmates, even if they were not actually drowned, could not escape. To crown all, a number of large peepul and other trees were blown down on the debris of the houses; this of course completed the destruction both of man and beast. The whole is now one festering mass. I attempted to go near it, but the fearful stench rendered it impossible for any one to do so. The only course to follow with this and other villages similarly circumstanced will be to leave them until the dry weather, and then to fire the whole mass.

5. As far as this district is concerned, most absurdly exaggerated Reports have appeared in the Public Papers regarding the distressed state of the people. In Oolobariah I found that the Baneahs had constructed dwellings for themselves out of the ruins of their houses, and their shops were open as usual. Rice, dhall, sweetmeates, &c., were plentiful, and rice was selling at a Rupee a maund *cheaper* than in Calcutta!! I saw a letter in the *Englishman* stating that there was great distress at "Moishrakha." I happened to pass through this place on my way to Bagnan the very day before the date of the letter. I found the Bagnan Bazar well supplied, and prices about the same as at Oolobariah. Labor was scarce and wages high (from 5 to 8 annas a day), consequently I cannot understand what reason there could be for the distress named by the writer. As you are aware, "Moishrakha" is only a short distance from Bagnan.

6. When I was at Bagnan I requested Mr. Benett, who acts as Manager of Baboo Heera Lall Seal in that part of the country, to inform his employer that a supply of rice, &c., would be of great benefit to his ryots in Shampore and Bagnan. I enclosed this in a letter from myself, and I am glad to say that the Baboo at once sent down about Rs 1,500 worth of rice and other articles of food, and expressed his willingness to do more if it was thought necessary. If the other Zemindars in this district would act in the same manner, there need be little or no apprehension of famine, or distress for want of food.

7. As you are aware, a large quantity of wrecked property is being continually washed up. This is being collected by the Police, (pending orders on the subject from yourself), but in spite of their exertions, I am satisfied that a vast amount has been taken and concealed by the ryots, many of whom, it is said, have, far from being sufferers by the Cyclone, become suddenly wealthy. We shall possibly, in the course of time, recover some portion of this, but the greater part has, I fear, been made away with.

8. I could not help being struck with the very healthy appearance of the in-coming rice crop. I went through a large extent of country, and with the exception of a few places which had been swept by the water, it appeared as though no storm had ever passed over. In spite of what the Baneahs and Grain-dealers choose to say relative to a scarcity for the coming year, I do not believe that, with the exception of the Shampore Division and a small portion of Ooloobariah, any real damage has occurred to the crop.

9. The loss of cattle is heavy, but many of them were brought down from Midnapore and other districts for the Calcutta market, consequently the loss does not fall so heavily on the ryots of this district. I noticed, when travelling through the canal between the Hooghly and the Damoodah Rivers, that on both sides the country was teeming with cattle.

10. The greatest difficulty which I foresee, and one with which we are almost powerless to contend, will be the want of good water. Nearly all the tanks being filled with the trees, leaves, &c., which were driven into them by the force of the wind, the water has become putrid; and as the ryots will not exert themselves to clear away these nuisances, I fear that sickness will arise from this cause. I have ordered the Police at each of the Stations to clear at least one tank for their own use. In the southern parts of the district, the salt water has, for the present, I fear, destroyed the tanks near the river banks; of course it will require time before it can again become fit for the use of man.

11. Perhaps it may not be out of place here to call your attention to the great want of good drinking water which always exists at Ooloo-bariah. It is a populous and increasing village, and before the Cyclone, there was traffic enough to induce four Steamers to run to and from Calcutta daily. The Bazar, &c., belongs to the Andool Rajah, but judging by what he has done for his ryots during the late calamity, I fear that there is but little hope of any assistance from him. A large pukka tank would be a very great boon to the inhabitants and travellers.

12. The ryots complain bitterly of the loss of their fruit trees, and this, I fear, will in reality prove to them a very serious misfortune, and one which will be felt throughout the district in the ensuing year; the cocoanut trees have, however, in most places withstood the violence of the wind. It will now be all the more necessary for the Zemindars to exert themselves and to assist the ryots by distributing fresh trees and plants throughout their Zemindarees.

13. I beg to state in conclusion that I believe that the Divisional Returns of loss herewith forwarded are tolerably correct, with the exception of Shampore. I do not, from my knowledge of that Division, think that there ever were in it the amount of cattle said to have been destroyed. As you are aware, the soil is very barren and saliferous, consequently there is but little food for their sustenance. I think it also very probable that many of the ryots who are returned as dead may have fled to other districts. The loss shown under the heading "computed loss of property," I have already noticed in my former report on Howrah itself as being in my opinion untrustworthy.

14. You will observe that the Return forwarded with my letter No. 517 of the 26th ultimo, is included in the present Tabular Statement, which shows the total loss caused by the Cyclone throughout the whole District of Howrah.

Tabular Statement showing loss of life and destruction of property in the District of Howrah caused by the Cyclone of the 5th October 1864.

NAME OF POLICE STATION	NUMBER OF PERSONS KILLED AND DROWNED			Number of Cattle killed and drowned	NUMBER OF HOUSES DESTROYED		Computed loss of property.	REMARKS
	Men	Women	Children		Pucka	Cutcha		
Seebpore . . .	2				50	2,775	70,000 0 0	The "computed loss of property" is taken from the statements of the sufferers themselves. I do not consider it trustworthy, and should think that one half would quite cover it. The loss in fruit trees, pan khates, vegetable crops, &c., which are not shown in any Column of this Return, has to be taken into consideration.
Howrah . . .	8			8	47	1,728	2,22,900 0 0	
Gollabary	5			50	50	5,000	1,00,000 0 0	
Bally ..				12	5	5,263	94 611 0 0	
Doomjoor ..	8	4	1	250	28	25,114	12,92 897 0 0	
Juggutbu'lubpore	2	2		176	83	7,084	4,83,247 0 0	
Amptah	17	6	9	455	28	24,678	5,57,021 0 0	
Bagan	8	8		72	2	25,000	6,54,721 0 0	
Shampore .	385	497	605	9,307	11	24,641	8,70,709 0 0	
Ooloobarah .	179	181	115	2,432	17	18,871	21,03,725 0 0	
Total	605	643	780	12,782	316	1,50,158	61,49,831 0 0	

APPENDIX A.

The morning of the 4th of October was close and cloudy; towards the afternoon a chilly damp breeze arose from the north-east, bringing with it heavy low hanging clouds. At 11 p. m. the night was dark, air perfectly still, and small rain was falling. At about 2 a. m. of the 5th October a fresh breeze sprung up from the north north-east, which soon stiffened into a storm, blew in strong gusts, and was accompanied with rain; it then veered round to the north-west, when it assumed the character of a hurricane. This was about 7 a. m. Between 8½ a. m. and 10½ a. m. it raged in its greatest intensity, blowing in furious gusts, and attended with heavy rain; branches were broken off from trees and thrown a distance away, windows and doors were either blown in or smashed; thatching of houses were partly or wholly carried away, and trees, large and small, were uprooted. Some trees thirty or forty years old were destroyed. The hurricane began to subside; from about 11 a. m. and at 2 p. m. it was blowing a stiffish breeze accompanied with little rain. The rain ceased at about 3 p. m., and heavy low hanging

clouds were being rapidly carried away to the south-east ; between 9 and 10 P. M. a light wind had set in from the south-west, and there were left only few detached white lofty clouds.

The fall of rain during the hurricane was $4\frac{1}{2}$ inches.

E. C. BENSLEY.

APPENDIX B.

Account of the Cyclones.

Deenonauth Bhattacharjee, Sub-Overseer, left Gungakhallee on morning of 4th instant, Tuesday, for Kookrahattee. Day was cloudy and slightly stormy. At 9 P. M. the storm blew with increased violence, and was accompanied with rain and continued increasing to 9 A. M. of the following day, the 5th instant. At 10 A. M. some of the fir trees in the garden attached to the Gazeepore dismantled bungalow with the roof of Office room fell by the force of the wind, and the store-room was levelled to the ground ; kitchen roof also fell in half an hour after, and all the teak doors and windows in store were being blown away. The 5th instant was the fifth day after the full moon. The last day the bore is felt during full moon is the third day after the full moon. The flood tide set in at Kookrahattee an hour earlier, but no bore came with it. It was half an hour or so after the tide made that the storm wave passed up the river. The Baboo had taken shelter in the Office room at Gazeepore, but when it became roofless, he had to seek shelter in the village close by. This village is situated on higher land than our bungalow compound. The water in the field adjoining this village began rising at a little passed 11 A. M., and rose to between 6 and 7 feet about that land by $\frac{1}{2}$ after 12 o'clock. The wind was then blowing from direct east. But it changed direction at about 3 P. M., when the land water began to subside. At about 7 P. M. the ears of paddy began to appear, i. e., between 3 and 7 P. M., the field water had subsided about 3 feet. The storm was felt greatest at 11 A. M., wind changed to south at 3 P. M., and to west at 6 P. M. ; wind abated at 8 P. M. Sky became clear and stars were visible. At 8 A. M. of the 6th there was half feet of water in field near the above-mentioned village, but it thoroughly subsided by the morning of the 7th.

A. SMITH.

The 22nd October 1864.

APPENDIX C.

1	2	3	4	5	6	7	8	9	10
	Year of manufacture.	Quantity of Salt stored in Maunds	Deduct Quantity delivered up to 3rd October 1864	Balance on the 4th October 1864	Deduct probable Quantity lost by the Storm	Balance	Value of the deficient Salt as per Column 8, at Rs 399 per 100 maunds	Value of the Goods destroyed	Total of Columns 8 and 9
		Mds. S. O	Mds	Mds S O	Mds S. O	Mds.	Rs As P	Rs.	Rs As P.
1	1267-68 S. S.	55,859 0 0	..	55,859 0 0	23,859 0 0	23,000	1,31,107 6 7	650	1,31,757 6 7
2	1268 S S	13,512 0 0	..	13,512 0 0	8,542 0 0	5,000	84,032 9 3	750	84,812 9 3
3	1269 S S	14,708 0 0	..	14,708 0 0	7,708 0 0	7,000	30,734 15 6	560	31,294 15 6
4	1269 S S.	47,081 23 3	31,267	12,825 23 3	9,825 23 3	8,000	39,204 1 0	760	39,964 1 0
5	1269 S S.	23,979 0 0	..	23,979 0 0	11,979 0 0	12,000	47,786 3 5	475	48,271 3 5
6	1269 S S	20,087 0 0	9,060	11,027 0 0	4,037 0 0	7,000	16,107 10 1	575	16,683 10 1
7	1269 S S.	31,600 0 0	...	31,600 0 0	15,600 0 0	16,000	62,244 0 0	575	62,819 0 0
8	1269 S S	36,500 0 0	..	36,500 0 0	16,500 0 0	20,000	65,836 0 0	670	66,505 0 0
9	..	0 0 0	..	0 0 0	0 0 0	...	0 0 0	850	850 0 0
10	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	650	650 0 0
11	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	850	850 0 0
12	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	610	610 0 0
13	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	370	370 0 0
14	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	370	370 0 0
15	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	470	470 0 0
16	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	570	570 0 0
17	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	475	475 0 0
18	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	475	475 0 0
19	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	525	525 0 0
20	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	475	475 0 0
21	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	760	760 0 0
22	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	670	670 0 0
23	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	670	670 0 0
24	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	670	670 0 0
25	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	670	670 0 0
26	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	670	670 0 0
27	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	670	670 0 0
28	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	675	675 0 0
29	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	760	760 0 0
30	..	0 0 0	..	0 0 0	0 0 0	..	0 0 0	..	..
31	Total	2,48,362 23 3	44,317	2,00,045 23 3	1,07,045 23 3	93,000	4,27,111 13 10	18,190	4,45,301 13 10

P DICKENS,
Officer in Charge of Narasingore Depot.

TUMLOOK SALE OFFICE,
The 24th October 1864

From A. SMITH, Esq., Offg. Magistrate and Collr. of Midnapore, to Commr. of the Burdwan Division,—(No. 128, dated 10th November 1864.)

On the 9th October last I placed before you a brief account of the effects of the late Cyclone on the district, with the promise that it will be supplemented by a more complete report when I had fuller information before me. I have since sent you my diaries, and have given you information as I received it from time to time, and though I am not even now in possession of such full details as I should like to communicate to you, I do not think it advisable to delay longer the submission of the promised report.

2. METEOROLOGICAL FEATURES.—Notes were taken of the storm as it proceeded at Midnapore and Contai, at the first place, by the Civil Surgeon, and at the latter by the Executive Engineer. These notes which will be of interest as exhibiting the meteorological features of the Cyclone, are appended to the report along with an account given by a Sub-Overseer in the Department of Public Works of what occurred near Kookrahattee, in the Pergunnah of Doo-doomuan. From the descriptions of the storm given me, I should say that the centre of the Cyclone passed from Cowkolly to Tumlook. The storm wave, of which mention will be made below, appears to be the accumulation of water forced towards the centre by the action of the wind, as leaves are compelled to the centre of a whirlwind. It was probably aggravated in its effects by the fact that the calm centre moved in the same direction as the tide, but it does not seem to have been in any way associated with a bore, and the tide appears to have generally set in for sometime before the storm wave came.

3. LOCALITY AFFECTED.—The northern and western parts of the district were not much affected. At Gurbetta but little storm is said to have been felt, and no damage is said to have been done to the Police Stations of Salbonee, Bheempore, Gopeebulubpore, Dautoon, and Jellasore. At Keshpore, Narainghur, and Roghoonauthpore the damage was slight. At Midnapore itself the storm was violent, and all over the eastern part of the district it was so.

4. LOSS OF LIFE.—The loss of life due to the violence of the storm itself and to ordinary casualties arising therefrom is comparatively small. At the Police Stations comprised in the Sudder Division of Midnapore, only thirty-three such deaths have been reported. From Contai and Tumlook, the information of the number of deaths

formally reported has not been received ; but as such reports would not, under the enormous loss of life known to have occurred there, be any guide to its real extent, the circumstance is immaterial.

5. The vast destruction of life and property which occurred in these two Sub-Divisions and specially the latter, was due to the extraordinary height of the storm wave which rose high above the embankments and inundated the country for many miles inland.

6. The sea coast from the Soobunreekha to the Russulpore and the banks of all the rivers and khalls in the south of the district are girt by embankments which are required to protect the country from the spring tides, and which have of late years been elevated at a great expense to ward off the inundations brought by storms like the present, by which it was devastated in former times, but which it has escaped since 1834.

7. The main embankment is the great sea dyke of Hidgellee extending from the Soobunreekha to Shamchuck on the western bank of the Russulpore. Along the greater part of this portion of the coast the storm wave did not attain to any extraordinary height. At Raneah on the west and Mohorumpore on the east of the Solamohan, it attained only the height of $4\frac{1}{2}$ feet above the country level, and about a mile below Raneah, it succumbed to that of the ordinary spring tide. As it approached the Russulpore, its height increased. At Joonpoot it was 11 feet 6 inches, and at Dowlutpore 30 feet 8 inches. At Shamchuck, which is some distance up the river, it was 11 feet only.

8. From Bhograie adjoining the Soobunreekha to Runkota and on to Beerkool, there was no storm wave. From Beerkool to the Solamohan the sea broke over the embankment at only two or three places, where it was low, but between the Solamohan and the Russulpore, there were four or five breaches.

9. I have not personally seen that part of the country except so far as it is visible from Contai and the road thence to the Russulpore Ferry, but Baboo Krishnapersad Ghose, who has been towards Gopalpore, reports that he found most of the villages apparently deserted.

10. The salt-water seems to have more or less spread over all the country on the south of the Sand range of Contai from the Russulpore to the Solamohan, and to some extent on the north from the breaches in the embankment between Dowlutpore and Russulpore. The tide water passing up the Russulpore topped the Hasseah embankments on

the Seerpaie and Baleaghaie, and the country was also to some extent flooded by them, and the crops near them were evidently suffering therefrom, though when I had them tested the waters were found to be entirely fresh.

11. It was, however, in the tract between the Russulpore and the Roopnarain that the worst effects of the storm were felt. The storm wave rose higher than it did on the coast below the Russulpore, and the embankments having opposed to them, the waters of the rivers only are much lower than those of Hidgellee, which were designed to resist the violent storms from the Bay.

* 12. These embankments were every where topped by the waters. At Cowkolly and Kedgerree, where observations have been taken, the waters were found to have risen to a height of 30 feet 6 inches over the country level, being 6 feet 4 inches at the former, and 4 feet 3 inches at the latter Station above the crest of the Hooghly face. From Bhograie, on the Russulpore, to Ghur Chuckerbereah, 8 miles above Kedgerree, I have gone along this embankment. There are large breaches here, and there and for its whole length the earth-work has been washed away to a most serious extent. The dam closing the Konojopore Khall had disappeared, except the stakes against which a corpse, white from decomposition, was jammed. The sluice at the Kholakhallee had all disappeared, except the buttresses, and the Tangrakhallee had also been laid open. The drainage waters were receding rapidly through these channels and some of the breaches in the embankments.

13. The water line in the interior of the embankment was strewn with dead cattle. Between Bhograie and Kedgerree there must have been more than 100 of them. It is singular, though the loss of human life throughout this tract is known to have been excessively large, that no corpse were found in this position.

14. Along the low road by which I went from Ghur Chuckerbereah to Balleeghatta I counted several, and on the 12 miles between Balleeghatta and Kookrahattee as many as seventy-two.

15. The loss of life through the whole track from the Russulpore to Kookrahattee has been very large, but specially so above Kedgerree. Between Kedgerree and Kookrahattee we saw no one who had not lost large numbers of his relatives. The Police of the Kedgerree Station have knowledge of 1,585 deaths throughout formally reported to them. The people of Goomghur estimate their loss at three-fourths of the population, and Sooruthram Prodhan, the Naib of Dorodoomuan, says

that in Mr. Collector Bayley's time he estimated the population for that Officer at 15,000, and that he numbers the survivors of the inundation at 5,000. As the population of a locality so notoriously prosperous must have much increased since Mr. Bayley's time, this gives a very serious estimate of the loss; whatever may be thought of it, it is certain that the proportion of lives lost to population has been very great. A case of dacoity from the neighbourhood of Nundeeogan had been committed to the Sessions with thirty-two witnesses. The Police have reported that only two of them are forthcoming, and though I have ordered further enquiry on the point, the circumstance may be noted here even though eventually it may be found that the missing thirty have not all been lost.

16. That Mr. Botellho, Post Master and Honorary Magistrate of Kedgerree, with his family, had all been carried away, I have already informed you. With the exception of Mrs. Botellho, their bodies were all recovered and buried, but her remains have, I regret to say, not been found. She is said to have worn on her person at the time of her death, jewellery to the value of Rs. 2,000, which is, I fear, the explanation. But little of Mr. Botellho's property has been recovered. The Police did not behave well, having all bolted. Their Station had been washed clean away, nothing remaining but a few inches of sticks projecting from the ground. The bazar and seemingly most of the people in it were swept away also, still their discretion of this charge when the inundation had receded and their presence was peculiarly required to inspire confidence and give protection was not creditable. The Police of Sootahatta also left their jurisdiction, and the District Superintendent has put them on their trial. The Assistant Superintendent of Contai acted with promptitude. He sent out an Inspector and a party of Police specially to recover Mr. Botellho's property, and maintain order. The Inspector instead is said to have compounded with the people for not searching their houses, and has also been sent up for trial on what seems *prima facie* to be good grounds. The result of these trials will be intimated to you hereafter.

17. From Kookrahattee up to Tumlook the loss of life is believed to have been much less serious than it was below Kookrahattee and at Tumlook itself. At the latter place only about twenty deaths were formally reported to the Police, but the number of ascertained cases within the Municipality is 436.

18. In the Panchkoorah Police Station the formal notices amounted to sixty-six, but this number was less than the deaths known to have

occurred at Koelah only. Nowhere, however, does there seem to have been any approach to the wholesale destruction found in Goornghur, Dorodoomuan, and the lower part of Mysadul.

19. CROPS.—Beyond the tract inundated either by salt or fresh water, owing to the unusual height of the storm wave, the crops present a very promising appearance, and offer every prospect of an abundant harvest. Had the Cyclone occurred in March or April, the productive powers of the land wherever the salt-water extended would have been destroyed for the next three years. At the present season the large volume of fresh water poured into the bay during the rains diminishes greatly the saline power of the waters in the coast. The land besides is soaked with fresh water, and therefore less liable to be impregnated with the salt-water poured over it than it would be in the dry months, while the large quantity of fresh water already spread over the country mixing with the tidal water as it extended inland reduced its saline properties. The compelling power which created the storm wave ceased when the centre passed, and the change in the direction of the storm too carried off the flood from a great portion of the land very quickly, and so the damage done, though very serious in some places, is fortunately very much less than I at first feared, and probably nowhere will any evil consequences be found to ensue except to the crops now in the field.

20. It is satisfactory, inasmuch as it tends to confirm this view, that even the growing crops have been nowhere injured, except where the waters have not been drained off, and where they would certainly have been injured had the waters been entirely fresh.

21. In Majnamoota and Baleejarah flooded by the breach at Dwolutpore, Baboo Krishnapersad Ghose thinks the injury done to the crops trifling, if any. In Kalindee Balsye, Bhograie, Khaleessa Bhograie, and Goomesh the early sown crops had escaped, but those sown late or the name Fhusul as the Natives describe them were injured.

22. In Kalindee Balsye a portion of the embankment being comparatively very low was surmounted by the storm wave in the Peechabuny Khall (Solamohan), and the sluice gate at Kashmalee having fallen down, and those at Jugo Mohun Chuck and Mania not having been opened in time, the water remained stationary for a few days.

23. In Bhograie, Khaleessa Bhograie, and Goomesh, some injury has been sustained from the flooding of the Baleaghaie and the Dhunghatta Khall, a channel leading into the Peechabunny, the sluice gates

over the Sonamoye Khall having sunk down and thereby obstructed the drainage. Ten or eleven days after the inundation, these gates were set right, but the water had, in the mean time, done its work. In some of the villages comprised in these Pergunnahs, the water is still standing. The Deputy Collector estimates the anticipated loss in Kalindee Balsye at one-eighth, and in these three Pergunnahs about one-fourth.

24. A more minute examination of Paharpore will be made, but on my way to Contai I found it flooded, and to some extent damaged, by the waters of the Baleaghaie, as mentioned above in the 10th paragraph.

25. Turf Erinch Narovamoota, Pattaspore, and Jullamoota are said to have suffered and will be examined immediately, but they have not yet been seen by any Officer.

26. In Kusba Hidgellee and Turf Beesseean I found the crops, which ought to have been still green, of a darker color than natural, and showing the yellow leaf without the grain. Even the peasantry could not say how much injury had been sustained, as they adjoin the embankment which had been well breached, and through the breaches and sluices of which the waters were very quickly drained off; it is probable no great harm has been done. They will, however, be watched as they approach maturity, and the result reported to you.

27. In Goomghur their appearance was much more unpromising. They were still swamped with water, and presented, though in a greater degree, the other features noticed in respect of Kusba Hidgellee. On examining the stalks, no ears were found, and the peasantry said that they did not expect that more than one-fourth of the ordinary harvest would be obtained.

28. In Dorodoomuan it was still worse. Near the embankment the crops were uninjured. Gradually, however, on proceeding into the interior they became worse and eventually disappeared altogether. I do not think that more than a very small portion of the crops of this Pergunnah will be saved.

29. The Huldee and the Roopnarain flow pretty nearly parallel from Panchkoorah on the one side, and Koelah on the other, until they join the Hooghly, and the country seems to have been flooded by both until above Tumlook, and by the latter as far as Koelah Ghat.

30. Between the mouths of the rivers is Dorodoomuan already mentioned. Above are the lands of the Mysadul and Tumlook Estates and of Kasseejorah. I have said that the crops in Dorodoomuan were

most injured in the interior. The drainage of the country follows the laws which usually govern it in alluvial plains. The banks of the rivers are the highest part of the country, and the slope from them is to the interior from which the water is drained off by the khalls. It follows, therefore, that the interior is longest covered by water, and I apprehend that along the middle portion between the two rivers the loss will be great. Above the line between Kookrahattee this portion has not yet been examined. Mr. Dickens has seen and reported favorably on the crops along the embankment, and into the interior along the Banka as far as Mysadul, but the localities most likely to be injured have not yet been seen. Near Koelah I noticed some slight injury. Between Tumlook and Panchkoorah the flood waters had spread over the whole of Tumlook and a great part of Kasseejorah. The crops, when I saw them, were swamped with water, which was being drained off. Mr. Ducas, the Executive Engineer of Tumlook, who has passed by that route at a later period than I did, is of opinion that the one-third of the crops between Tumlook and the old Zemindaree bund, which passes the Jatemkooor bungalow, has been lost, but that between that and Panchkoorah it is uninjured.

31. GOVERNMENT LAND REVENUE.—The consideration of this subject naturally follows upon the description of the crops. No formal application for remission has yet been made by any Zemindar or farmer, though in the Hidgellee Khas Mehals some of the ryots have petitioned that the farmers should be directed to concede them this indulgence. The condition of these Mehals is very peculiar. It was because of their liability to inundations of this nature that they were not permanently settled at the time of the decennial settlement, and it was on account of the inundation of 1834 that the settlement then recently made with the Zemindar was transferred to farmers. The farming settlement will expire in 1273, and the Zemindaree settlement in 1274. The farmers have long held the leases on easy terms and merit no special indulgence, but as the estates will, at an early period, come under re-settlement, it may be a question how far it may be for our own interest to concede such indulgences as may be required to induce fresh cultivators to supply the place of those whose lives have been lost in this unusual calamity, and to enable the survivors again to set in earnest to the cultivation of their fields. The only Mehal to which I would be disposed to advocate indulgence of this nature on the information now before me, is Dorodoomuan.

32. The Dewan of Mysadul informs me that his master will not be able to meet his next January kist, and considering that the whole of his

estate has been inundated, that about three-fourths of his tenantry in Goomghur are supposed to be drowned, and that the crops there and in other parts of his estate are certainly injured to a serious extent, there is no doubt that he will find himself in difficulties, and that it may be necessary to grant him some indulgence. In time I do not think it will be requisite or that it would be advisable to give him any remission, and I will not support any request for grace even unless it be shown me to be absolutely necessary.

33. **PUBLIC PROPERTY EMBANKMENTS.**—The most serious loss to the State has been in the Embankment Department. I have already noticed the portion between Kedgeree and Ghur Chuckerberea, and the combination of the line up to Bapoolea Chuck is, I am informed, in the same state as the portion below, and I have little doubt that the further section lying to the south of the Huldee has been very seriously injured also. I know it was breached in some places.

34. From Baleeaghatta round Dorodoomuan and up to Koelah the injuries sustained are very severe. Between Tumlook and Koelah, about 5 miles of the embankment from the Soudigga Khall to the Chuttur-deega sluice have been washed almost entirely away. Above Koelah little damage has been done. To put the embankments into order again will require all the available labor of the next two years, and the cost to the State will be very large.

35. It will, however, be necessary to erect them to such extent at least as will exclude the tidal waters during the highest spring tides. It appears to me to be impracticable to erect such embankments as will withstand the storm wave of Cyclones, except at enormous outlay, and I think, after the experience of Hidgellee, where the embankments expressly designed for this purpose have in the first storm been found ineffectual, though it is notorious that the height and violence of the storm wave on that part of the coast was less than above all such embankments, will be viewed with suspicion. These calamitous visitations appear from experience to occur only after long terms of years. To erect embankments to withstand them, which are of no use except when a storm occurs, and then give way, is to have no return for our outlay. It is different, however, with embankments necessary to protect the country from inundation by the ordinary action of the tides. These must always be maintained if cultivation is to be carried on at all, and repairs to the extent needed for this purpose must at once be made.

36. SALT.—The next great loss to the Government is in its Salt Revenue. At Narainpore, Russulpore, Kaleenugore, and Kristonugore, the golahs have been all blown down. At Russulpore, the former golahs having been burnt, the condition of the surface of the salt protected it, and little, if any, damage has occurred. I saw this golah on my tour, and the intendants estimate of the salt in stock seemed to me to be correct. At the other golahs of the Hidgellee Agency, Kaleenugore, Kristonugore, Ramnugore, and Pooreeghat the Salt Agent cannot inform me of the probable damage done. At the Narainpore depôt, in the Tumlook Agency, the computed loss amounts to maunds 1,07,045, and the value of the golahs destroyed is Rs. 18,190. The Statement supplied by the Salt Agent exhibiting the loss is annexed. I would, however, remark that he has valued the salt at its selling price, while the real loss to Government is only the cost of manufacture and protection. The revenue which is superadded to give the selling price will be derived from other salt, but the actual loss to Government will exceed a lakh of Rupees in the Narainpore golahs alone.

37. PUBLIC BUILDINGS.—Within the range of the Cyclone, few buildings, public or private, escaped without some injury. Masonry buildings stood, as was to be expected, best, but it can scarcely be said that any public buildings have escaped uninjured within the range where the Cyclone was violent. Out of about thirty-three Inspection Bungalows, under the Executive Engineer of Hidgellee, only five, Tajpore, Dowlutpore, Deegah, Runkotah, and Bhograie, are habitable, the rest being unroofed and otherwise injured. The bungalows from Koelah and Panchkoorah to the Hooghly in the Division of the Executive Engineer of Tumlook are, with the exception of Gewakhally, in the same state. The Police Stations at the following places have been injured as stated below, and the estimated cost of repairs where known to me is given :—

				Estimated cost of repairs.		
				Rs.	As.	P.
Debrah, slight damage	170	0 0
Panchkoorah, seriously damaged	419	0 0
Tumlook, entirely down, site barely traceable	540	0 0
Dasspore, unroofed	152	0 0
Keshpore, a wall down and thatch injured	60	0 0
Subung, a complete ruin	102	0 0
Harreah, ditto ditto	253	0 0
Muslundpore, ditto ditto	465	0 0

				Rs.	A.	P.
Sootahatta, a complete ruin ...	...	...	...	254	0	0
Bhug wanpore, all fallen down ...	...	...	...	170	0	0
Pattaspore, ditto ditto ...	...	...	...	308	0	0
Kedgere, washed away, only a few stacks remain ...	...	...	...	250	0	0
Nugwan, much injured ...	...	...	...	155	0	0
Narainghur, trifling damage ...	...	...	...	Nil.		
Dantoon, damage slight ...	...	...	...	49	0	0
Contai, unroofed ...	...	...	...	400	0	0
Roghoonathpore, slightly damaged ...	...	...	...	51	0	0

38. No other Stations have been injured, but Mynah, Nurghat, Sonakhallee, and several other outposts have been destroyed.

39. The Sudder Distilleries and Excise Offices have been damaged as follows :—

					Estimated cost of repairs.		
					Rs.	As.	P.
Midnapore, damaged severely ...	...	...	...	132	0	0	
Hidgellee, Excise Office, all down, Distillery three walls down				300	0	0	
Panchkoorah, Distillery all down, Excise Office much damaged				150	0	0	
Dantoon, damage slight ...	...	...	...	15	0	0	

40. At Tumlook the Deputy Magistrate's Cutcherry and residence were unroofed, and the walls injured. The Moonsiff's Office, the School, the Hospital, and the verandah of the Dispensary were down. As there was a proposal to transfer the Head-Quarters of the Division to Panchkoorah, no permanent arrangement will be made until orders have been passed on this proposal.

41. At Contai the Agency House, which serves as the residence and Office of the Deputy Magistrate and Office of the Executive Engineer, was disfigured, and some of the windows injured, but no damage of any serious nature was sustained. The lock-up was also down, but from the appearance of the locality, the storm was evidently less severe there than at Tumlook. The beautiful Kassarema trees, which formed the chief ornament of the Station, were thrown down or broken. Indeed, trees have been thrown down or broken wherever the storm extended, and in many places, as at Contai, their loss has deprived the localities of much of their natural beauty.

42. **ROADS.**—The roads have only suffered from the storm where they were affected by the inundation, and old consolidated roads have even there suffered comparatively little. The new road from Jharessur to Barkowlea has been nearly half washed away, and the line between Contai and Nurghat has, it is said, suffered seriously. Between Koelah and Panchkooah some of the metalling of the Trunk Road has been washed off. Near Dewleah and about half of the road between Narainpore and Tumlook has disappeared.

43. **TELEGRAPH LINES.**—From Debrah to Tumlook and from Contai to Kookrahattee, viz., Kedgerree, the wires and posts were almost entirely down. The Midnapore line has been erected, but when last I saw it, the wires in many places hung so low over the road as to be a source of danger to travellers, and I have addressed the Department on the subject. On the other line I could not see that anything had been done to it; when I went along it, some property pertaining to the Department lay at the Russulpore Ferry, which should be removed to a safer position.

44. **PRIVATE PROPERTY.**—I have already mentioned the effects of the storm on the crops; second to the loss on that head is the loss of property in houses and cattle. After the account given of the different public buildings within the range of the storm, you will not be surprised to learn that the huts of the peasantry have suffered largely. At Panchkooah, Pertabgunge, Nugwan, and many other places, the houses were thrown down by the wind alone, but within the track inundated by the sea and rivers this evil was much aggravated. Few houses indeed resisted the combined strength of the wind and water. In Tumlook, within the Chowkeydaree union, only 27 out of 1,400 houses are said to have remained standing. This place was in the centre of the Cyclone, and may therefore be supposed to have had to endure the strongest of the gale. At many other places, however, the houses were in a similar state.

45. Wherever the inundation spread, the loss of cattle was large. I should say that I am certainly not under the mark in computing the entire loss in the district at from forty to fifty thousand head. Wherever the loss of life has been large, the loss of cattle has been so also, and except in some few instances, it is attributable entirely to the inundation.

46. **DISTRESS REQUIRING RELIEF, EXTENT THEREOF, AND NATURE OF THE MEASURES RECOMMENDED.**—Nowhere except in the localities submerged by the inundation, does anything like distress exist. There, too, the country has long been noted for its prosperity as an agricultural tract, and the

tenantry were previously comparatively well to do. The survivors have lost many of their relatives, their houses, their cattle, and much of their other property. Still few are left without the means of again setting themselves up in life. The destruction of the cereals in store and the loss of their other property subjects them to temporary hardships, and these may be aggravated by the loss of crops in the worst parts. The necessity for relief appears to me to be temporary, and the pressing want is food. The construction of their houses is an item essential to their comfort, but bamboos are plentiful, and the crops now in the field, whatever may be the supply of grain, will soon yield plenty of thatch. The general complaint made to me on my tour was the high price of salt, caused apparently by the destruction of local stores. That must pretty well have remedied itself ere now. The prices complained of were from 2 to 2½ annas a seer. Fresh water, too, ought to be available. It was found near Kedgerree, and at Ghur Chuckerbereah I replenished my own supply. I do not think the complaint regarding it likely to be of long duration. Food alone is immediately required. I met Mr. McNeile at Kookrahattee, gave him the information I had collected, and pointed out to him the localities at which depôts for relief were most required, and except that I think one might be placed at Banka for the relief of the interior of the Mysadul Estate, I do not know that I would now add any to those proposed to him, which embraced the coast from Kookrahattee round to Baleeaghatta and from Bassoollee Chuck on the other side of the Huldee to the Russulpore Ferry.

47. The aid required will be only temporary. The labor needed for the embankments and for the works of the East India Irrigation and Canal Company will be a boon to the population, and will employ and support them when they do not find it more profitable to return to their agricultural labors, and it will be more agreeable to every one who would be a deserving object of charity, so to earn his bread than to receive it gratis. Immediately after the Cyclone, subscriptions were collected in Midnapore, and the provisions purchased from the proceeds were sent along the Oolobariah road and to Tumlook to be sold to those who could buy and distributed to those who could not. Supplies to the extent of Rs. 1,000 were also sent to Tumlook from public funds for sale, but, excepting in keeping down the exorbitant rates charged by the Mahajun, I cannot say that any real good was done thereby. In truth the Deputy Magistrate, who applied for them on the plea that the people were starving for want, found, when he got them, that the Mahajuns had anticipated him, and that it was difficult for him to dispose of them, so as to cover the expenses incurred, a result which, though Government

may sustain some loss by the transaction, seems to me to be rather satisfactory than otherwise. I have not yet received the accounts of these supplies, but I will inform you of them hereafter.

48. **SANITARY REMARKS.**—It is satisfactory to have to state that up to this time the fears entertained of pestilence from the decaying animal and vegetable matter spread over the country have not been realized, and I sincerely trust that this additional calamity may be warded off. The Municipal Committee of Tumlook took prompt action so far as that town is concerned, and on my last visit I was happy to find that the bodies of men and animals which on my first visit polluted the atmosphere, had been cleared away; that the decaying thatch and other vegetable matter with which the streets were covered, was being rapidly removed; and that the houses were gradually resuming their former appearance. A slight outbreak of cholera had occurred, but it had fortunately disappeared. It is also said to have appeared in one village, Azmutollah, in the interior of Mysadul. Details are not given. I have directed that all bodies and carcasses on the public thoroughfare be removed at the public expense, and I have requested the Sub-Divisional Officers to use all their influence with the landowners to induce them and their tenantry to bury or burn those found in the interior, and I have addressed them also personally on the subject. It is true the period when the bodies were most offensive has passed, but nevertheless they continue still a source of serious danger to the public health where left exposed, and though during the cold season this danger may be latent, it is probable that in the hot weather, which a few more months will bring about, it will, unless measures are taken in earnest to avert it, show itself in a manner which will seriously punish the neglect.

49. To these measures my best attention will be given, and I hope they may be successful.

From H. L. DAMPIER, Esq., Commr. of the Nuddea Division, to Secy. to Govt. of Bengal,—(No. 238, dated 5th November 1864.)

In continuation of my No. 214, dated 17th ultimo, I have the honor to state that it has been represented to me from all quarters that, in consequence of the disastrous effects of the Cyclone in this Division, there is no chance of an Agricultural Exhibition meeting with support or success if held at Kishnaghur this season.

2. Planters, Zemindars, Mahajuns, and Ryots have alike suffered severe losses, and their whole attention and interest will be engrossed in this direction for some time. I am convinced that it would be impracticable, if wise, to divert their attention to Exhibition matters at present, and that to attempt to do so would be likely to make these Shows unpopular.

3. Under these circumstances, I have availed myself of the discretion left me by His Honor the Lieutenant Governor, and have postponed the Kishnaghur Show till the season of 1865-66.

From S. C. BAYLEY, Esq., Junior Secy. to Govt of Bengal, to Commr of the Nuddea Division,—(No. 4989, dated 12th November 1864.)

I am directed to acknowledge the receipt of your letter No. 238, dated the 5th instant, and in reply to state that the Lieutenant Governor authorizes you to postpone, till the season 1865-66, the Agricultural Exhibition which was to have been held at Kishnaghur at the end of the current year.

From CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal,—(No. 2443, dated 24th October 1864.)

I have the honor to submit, for the information of His Honor the Lieutenant Governor, a Statement,* in original, of the defects of the hull and rudder of the Water Tank Boat, and of the probable estimated cost for repairing the same.

* Return requested.

2. The damages sustained by the boat were caused by the late hurricane; and, as her services are most urgently needed at the present time, I have, in anticipation of His Honor's sanction, which I now solicit, directed that her repairs be taken in hand at once.

3. The estimated cost, Rs 450, will have to be met by a special grant, as it is not provided for in the current Budget.

From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to Master Attendant,—(No. 4792, dated 4th November 1864.)

I am directed to acknowledge the receipt of Captain Howe's letter No. 2443, dated the 24th ultimo, and enclosure, and in reply I am to inform you that the Lieutenant Governor sanctions the repairs required

for the hull and rudder of the Water Tank Boat, which has suffered from the effects of the late gale, at an estimated cost of Rs 450. The Deputy Auditor and Accountant General, Bengal, will be asked to report from what source this expenditure can be met, and whether the surplus earnings of the boat cannot be made available for this purpose. I am to take this opportunity to convey the Lieutenant Governor's approval of Captain Howe's proceedings in having directed the repairs to be proceeded with in anticipation of sanction.

2. The Estimate of defects is herewith returned.

From CAPTAIN JOHN G. REDDIE, Master Attendant, to Secy. to Govt. of Bengal,—(No. 2684, dated 11th November 1864.)

The Anchor Boat *Heave-Hard* having been driven ashore during the Cyclone and sustained considerable damage, which will entail an expense of Rs. 1,550, which is not provided for in the Budget, I have therefore to solicit that His Honor the Lieutenant Governor will allow me to add this amount to the Budget, as the *Heave-Hard* is urgently wanted. I have ordered the repairs to be proceeded with.

From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to Master Attendant,—(No 5099, dated 18th November 1864.)

I am directed to acknowledge the receipt of your letter No. 2684, dated the 11th instant, and in reply to state that the Lieutenant Governor authorizes you to expend the sum of Rs. 1,550 for the repairs required to the Anchor Boat *Heave-Hard*. The amount should be debited to the Port Fund.

From the HON'BLE A. EDEN, Secy. to Govt. of Bengal, to Depy. Master Attendant in charge,—(No. 4218 T, dated Darjeeling, 18th October 1864.)

I am directed to acknowledge the receipt of your letter No. 2473, dated 12th instant, submitting, with remarks, a copy of a Report from Mr. Vaughan, Master Pilot, on the late hurricane as experienced by him while in pilotage charge of the Ship *Martaban*, and to say that the Lieutenant Governor approves of your having arranged with the British India Steam Navigation Company to bring up the Pilot Brig *Foam* from the Madras Coast.

2. I am to add that it is hoped that the Brig *Chinsurah* has been heard of since the despatch of your letter.

From CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal,—(No. 2453 M, dated 7th October 1864.)

I have the honor to report, for the information of His Honor the Lieutenant Governor, that a tremendous Cyclone raged over this city and port on the 5th instant, doing incalculable damage.

The evening of the 4th was gloomy with rain and a remarkably angry-looking sun at sun-set; the Barometer, when I left Office at 5-30 P. M., was 29°70', and no one appeared to anticipate anything beyond what is called a dirty greasy night. Towards midnight, however, it was blowing hard from the north-east, continuing the same at day-light, and until noon, when the wind was east, and blowing a hurricane with sheets of rain. At 1-45 to 2 P. M. wind E. S. E., and from this time to 3 P. M. the hurricane was at its height, and the Barometer showed 28° 70'. At 3-30 P. M. the wind was S. E., gradually veering round to the south and S. W. with occasional lulls, and at 5 the gale was rapidly subsiding.

To give an adequate description of the disastrous effects of this Cyclone upon the Shipping is impossible.

The ships were swept away from their moorings and driven or cast ashore in heaps on the opposite side.

Many vessels in the stream drove from their anchors, fouled others, and were all swept away together.

Several large ships sunk in the middle of the river with the loss of all hands.

As related in the *Englishman* of this date, the crew of the *Govindpore*, a magnificent new ship of 1,200 tons, which capsized and sunk off the Custom House, were saved through the gallantry of a Sailor named Cleary, who swam off to the wreck with a line, by means of which they all got safe to the shore.

Rumours and reports of loss of life are coming in every moment, and it is impossible at present to ascertain what is true and what is uncertain.

A ship is sunk below Garden Reach, and it is said the Captain, with his wife and children, went down with the wreck. Eleven vessels have already been ascertained to have sunk, and there must be 150 on shore

* 50 Cossipore.
9 Goosery Sand.
7 Garden Reach.

They are laying in heaps in three divisions abreast of the town, while numbers have been driven up to and above Cossipore.*

In the present state of affairs, all that can be done is to use every exertion to get the ships off and into safe anchorage; it is impossible at this time to give any account of the names of vessels ashore at the

different localities; they are with few exceptions all on shore and all the Harbour Masters and Pilots are employed in extricating them and tugging them afloat by steamers.

The loss of a number of boats in the Harbour Master's Department seriously cripples us, and boats are not to be hired at present for money.

The vessels in the Salt Golah and Railway Moorings rode it out in safety, so did the *Robert Lees* at Chandpaul Ghaut Moorings, while vessels in shore and outside of her were driven away.

The *Saugor* Light Ship rode it out in perfect safety in the middle of the stream, as did the *Grappler* until fouled, when she parted, but was afterwards brought up, and was again drifted into by five ships which swept her away and dismasted her. She is now afloat. The *Mutlah* Pilot Brig is high and dry, but not damaged. The *Guide* and *Foam* are safe, and so are all the Government Vessels, with the exception of the *Adyar*, which is high and dry below Fort Point with her back broken, and the *Ganges* off the Custom House. It is hoped that we shall be able to recover this latter vessel and the machinery and boilers out of the *Adyai*. The floating Church *Dallah* was driven from her moorings, and is a total loss.

On the morning of the 6th, I despatched the *Koludyne* to proceed to the Soonderbunds to see if anything had happened to the *Peel* with the Troop Boats *Konaie* and *Gogra* having the 12th Regiment Native Infantry on board, and the *Celerity* was despatched to the *Bentinck* and thence to visit the Sandheads, but up to this moment no reports have been received from any of the stations down the river.

The Dock-yard has suffered very severely, scarcely a shed or workshop standing, the Factory has escaped any serious damage, and the machinery is all safe.

The moorings in the port have all disappeared, and the ruin and desolation are complete.

Entire fleets of Inland Steamers and Flats are irretrievably lost, fortunately none of the vessels engaged for the Bhootan Expedition were here, and it is hoped they may have escaped. I am looking forward with great anxiety for the tidings from below, as it is computed the centre passed somewhere near Mud Point, in which case the *Bentinck* and other vessels near that locality would have been exposed to great danger.

The Mail Steamers are all more or less sufferers; the *Bengal* is high and dry; the *Nubia* dismasted, and the *Nemesis* considerably damaged

by the *Hindloostan* fouling her ; the latter vessel eventually rolled over and over and sunk ; and there is scarcely a vessel in port in a fit state to go to Sea.

The Screw-steam Ship *Mauritius* is amongst the Shipping ashore off Fort Point, and the *Sydney*, which was to have taken the *Alphee's* Mails, is aground on Goosery Sand.

I hope to have the *Arracan* and *Prince Arthur* ready for service by the 25th of the month, if the work is not delayed for want of artificers, but it is much to be feared that many of our previous calculations and arrangements may be upset by this calamity.

I cannot close this Report without bringing to the notice of the Lieutenant Governor the handsome manner in which Mr. Ross, of the Firm of Messrs. Gladstone, Wyllie and Co., has come forward as Lloyd's Agent. He has advanced money to the Department to hire boats and men at a time when none was procurable from the banks, and has engaged to pay for the hire of any Steam Tugs that we may employ to assist the Shipping.

P. S.—The *Defiance* Tug has just arrived with Captain Lewis and the Troops from the *Bentinck*, which vessel is wrecked on top of the bund at Diamond Harbour. All hands saved. The Coolie Ship *Ally* with 350 coolies wrecked at Rungafullah with the loss of nearly all hands, also her Tug *Alligator*, and the Tugs *Phoenix* and *Dwarkanauth*, the two latter at Saugor. The *Kedgerie* Pilot Vessel is safe at Diamond Harbour, but dismasted. The Ship *Baron Renfrew* is also wrecked at Diamond Harbour.

Telegram from CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Lieut. Govr. of Bengal, Darjeeling,—(dated 10th October 1864.)

Peal and Flats safe ; going on. *Progress* and Flats with stores and opium high and dry in Channel Creek. *Megna* and *Salween* high and dry at Kedgerie. Inundation at Kedgerie. Post-Master and family and numbers perished. All stations in want of provisions. Sending help in every direction. Buoys at Kedgerie in their stations. No signs of Gasper Light.

From the HON'BLE A. EDEN, Secy. to Govt. of Bengal, to Depy. Master Attendant in charge,—(No. 4141 T, dated Darjeeling, 11th October 1864.)

I am directed to acknowledge the receipt of your letter No. 2453 M, dated the 7th instant, as also your Telegram dated the 9th idem ; and in reply to request that you will be good enough to furnish a further and complete Report when the full extent of the damage caused by the Cyclone has been ascertained.

2. The Lieutenant Governor authorizes you to incur any expense that may be necessary for saving life, and for rendering assistance to vessels in difficulty ; and His Honor desires me to express deep regret for the very serious loss of life and property caused by the Cyclone, and his sympathy for the sufferers. He also notices with admiration the gallant conduct of the Seaman Cleary, by whose intrepid behaviour the crew of the *Govindpore* was saved. A Special Report regarding the Seamen has been called for from the Commissioner of Police.

3. I am to request that you will convey the thanks of Government to Mr. Ross, Lloyd's Agent, for the timely assistance he rendered on the occasion, and to state in conclusion that you should take immediate measures to replace the moorings, and to restore the Port Establishments to an efficient state.

From S C Bayley, Esq, Junior Secy. to Govt. of Bengal, to Offg. Commr. of Police, Calcutta,—(No. 4154 T, dated Darjeeling, 12th October 1864.)

With reference to the accompanying extract from a letter from the Deputy Master Attendant in charge, No. 2453 M, dated the 7th instant, regarding the conduct of the Seaman Cleary in exerting himself to save the crew of the Ship *Govindpore*, which sunk in the River Hooghly during the gale of the 5th instant, I am directed to request that you will report on the case, and state whether it is one which, in your opinion, calls for the bestowal of a reward by Government on the Seaman Cleary.

From CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal,—(No. 2459 M, dated 8th October 1864.)

In continuation of my letter No. 2453 of yesterday's date, I have the honor to state that the Commander of the *Defiance* reports the Government Surveying Brig *Megna* to be a wreck off Mud Point, but I have no further particulars.

I have made arrangements, in concert with Lloyd's Agents, to despatch the Steamer *Lady Elgin* with Pilots to the Sandheads to assist the *Celerity* in search of disabled vessels, and in looking after the Pilot Brigs and Light Ships.

The Schooner *Charlotte* will also be despatched from Canning Town to visit the Mutlah Sandheads, and the Houses of Refuge will be visited as soon as possible.

From the HON'BLE A. EDEN, Secy to Govt. of Bengal, to Depy. Master Attendant in charge,—(No. 4191 T, dated Darjeeling, 14th October 1864.)

I am directed to acknowledge the receipt of your letter No 2459 M, dated the 8th instant, and in reply to state that the Lieutenant Governor approves of the measures taken by you for rendering assistance to damaged vessels and sufferers from the late gale.

From CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal,—(No. 2463½, dated 10th October 1864)

In continuation of my letter No. 2459 of the 8th instant, I have the honor to report that the Steamer *Koladyne* has returned from her search after the *Peel* and Troop Boats, and reports them safe and proceeding on after the gale.

Mr. Jewett, the Commander of *Koladyne*, reports further that he saved four lives, and that to the eastward of Kherl Cherra there had evidently been no gale; the wood-cutters' boats were at work as usual.

But although the *Peel* escaped, the Bengal River Company's Steamer *Progress* and Flats which entered Channel Creek a few hours later, and did not reach so sheltered an anchorage, were not so fortunate; the *Progress* is on shore with one Flat having Government Opium on board to the value of two and a half lakhs of Rupees, and the other Flat, the *Gowhattee*, sunk with Commissariat stores and ammunition. The Opium Flat is high and dry, and I have sent boats and men to assist in saving the Opium, and the *Koladyne*, on her return from the sea-face of the Soonderbuns in search of ship-wrecked people, will bring the Opium to Calcutta.

I annex copy of a Report from Captain Laycock, of the Surveying Brig *Salween*, reporting the stranding of that vessel at Kedgeree; and the *Megna* is also on shore at Huldia.

Mr. Laycock's description of the dangers through which the *Salween* passed during the Cyclone, and of the devastation and ruin that have destroyed Kedgeree, will, I am sure, be perused with interest by the Lieutenant Governor.

Captain Laycock did everything possible for the safety of his vessel, and his conduct before and after the loss of the *Salween*, while passing through such trying and indeed appalling scenes as portrayed in his plain and unembellished narrative, will not fail to meet with the consideration of His Honor.

The recovery of the *Salween*, and of her tender the *Megna*, which is on shore off Huldia, is doubtful; but Mr. Laycock is collecting materials and means of assistance and will proceed down the river immediately to re-erect the tidal telegraph masts, and make preparations for floating the *Megna*, and, if possible, the *Salween*, on the springs.

All hands were saved on both these vessels. The *Celerity*, which had been despatched to the Sandheads on the morning after the gale, returned from Saugor anchoring buoy, having expended all her provisions in supplying people on wrecked ships and on shore on her way down the river; she brought up the dismantled Pilot Brig *Kedgeree*, which had a very narrow escape, and had to cut away her masts to save her from foundering, her bowsprit was blown clean out of her. A copy of the Commander's Report is annexed.

The Ship *Martaban* arrived off town yesterday under pilotage charge of Mr. Vaughan, Master Pilot. She was anchored at Saugor when the gale came on, and when it ended Mr. Vaughan found himself at the mouth of the Huldia River opposite Mud Point, the ship having been carried by the storm wave over a number of the most dangerous shoals in the river without once striking the ground.

Mr. Vaughan's description of the state of the river, as he passed up in tow of the Tug *Alexandra*, is dreadful. He states that the banks were strewn with corpses of human beings and cattle, while those in the stream were so numerous, he had difficulty in steering the ship clear of them. On receipt of his written report, a copy shall be submitted for the information of Government.

As all the Signal Stations down the river are reported to be starving, I have despatched a large covered boat, the *Swiftsure*, with provisions

and water, under charge of an Officer, to their relief, and the *Celerity* has gone to False Point with provisions and stores for that Station. I received a letter this day from the Master Attendant of Balasore, dated the 6th instant, in which he makes not the remotest allusion to the gale, but indents for paint for the Schooner *Orissa*, so that it is evident the gale was not much, if at all, felt there. This leads to the hope that the gale may not have been severe at False Point; and that as the *Alexandra* Tug, which was blown from Saugor over the sands on to Pipleys Sand, had the wind there from the north-west, our Pilot Brigs had been able to put to sea and get an offing.

I regret to say that the *Celerity* reports that there were no signs of the two Light Ships in the Gasper Channel, but I hope they may have been driven on shore on the Western Coast.

The *Lady Elgin* has gone out with Pilots, and assistance is being daily sent to the Sandheads. The Light Ship *Saugor* leaves to-morrow in tow of a steamer to take up the Eastern Channel Station, and the *Deva* will follow in two days' time to take up the Gasper Light Station, and we are fitting out vessels as fast as possible to go down and relieve those that may be in distress. Unfortunately our reserve vessels all suffered more or less, and repairing damages and re-fitting causes some unavoidable delay. Another great obstacle to our progress is the want of men and of spars. We have only one spar in the Dock-yard suitable for a mast, and we have four vessels dismasted. We are picking up spars wherever we can, and are taking the masts out of the *Lady Canning*, as she can't be ready for some months, and putting them into one of the Pilot Brigs.

The work of getting the ships off the shore in port is also going on daily as fast as possible, and during the next springs, in the course of this week, they will come off in shoals.

The Dock Engine-house chimney, which was always the great obstacle with Engineers to any lengthening of our Dock for fear of undermining it, having fallen during the hurricane, and doubts being entertained of the Dock that was engaged over the water for the *Arracan* being available owing to the gates jammed with wreck, I propose to dock the *Arracan* in our own Dock, and this will be effected by merely cutting away a small portion, a few feet in length, of some brick-work at the head of the Dock, which will do no harm and can be built up again in three hours.

P. S.—I am happy to report that a telegram was received this morning from Sonapore, on the Balasore Coast, to the effect that the

Foam, one of the Sandhead Pilot Brigs, was safe at anchor on the Coast, although dismasted. The *Celerity*, which has gone to False Point, will bring her up.

H. HOWE,

Depy. Master Attendant in charge.

The 11th October 1864.

From CAPTAIN F. LAYCOCK, Offg. River Surveyor, to Depy. Master Attendant in charge,—(No. 97, dated 6th October 1864.)

I regret to report that on the night of the 4th and morning of the 5th instant, while at anchor near the Upper Eastern Mud Point Buoy, I experienced a most violent Cyclone from north-eastward, and the River Steam Vessel *Salween* under my command is now stranded on Kedgeree beach. I am glad to say all hands are saved.

Throughout the morning of the 4th the weather gave no warning of the coming gale, and the barometer stood at $\frac{29}{8}$. Towards noon it became fully and cloudy to eastward. Captain Pearson, of the *Megna*, boarded; his barometer also stood at $\frac{29}{8}$. About 4 P. M. it commenced falling, at 8 P. M. it was $\frac{27}{8}$. Sent down top gallant yards and masts and veered to 80 fathoms cable 10. Increasing squalls, veered cable to 100 fathoms, and let go the starboard anchor. At midnight blowing a gale at north-eastward with rain and high sea getting up. Ebb tide making, 5-30 A. M., parted the port cable, veered to 100 fathoms on starboard cable, got up the remainder of the port cable to bend to the port sheet anchor; battened on the hatches fore and aft. 5th, at 3 A. M., blowing a hurricane; barometer $\frac{27}{8}$. Just as we got the port chain bent again, the starboard cable parted, the sea at the time making a clean breach over the vessel, let go the port sheet, and veered the remaining cable, found it did not bring us up. At 6-30 saw the Upper Eastern Auckland Buoy about 50 yards to north-eastward of us. Finding we were fast drifting on to the mizen sand in two and a half fathoms, slipped and set the fore topmast staysail, got her head to westward, and steered for Kedgeree.

At 7 A. M. took the beach opposite the Post Office, the Cyclone at this time blowing with terrific violence; the barometer fallen to $\frac{27}{8}$; the seas washing in immense waves over the vessel; sails all blown from the gaskets; the boat washed away; and weather one blown up the main rigging over the davits.

Observed that the storm wave was carrying us in shore as we passed over the tops of several trees; found much water in the leeside of the hold and lower deck. At 11 A. M. observed the wind had veered to southward and eastward, still blowing in fearful gusts. At 1 P. M. observed the water to be falling, and saw the Deputy Post Master's house about 100 yards astern of us. 3 P. M. the water had receded from us; found the ruins of the Telegraph Offices under our jibboom

The vessel is much strained; fore foot and part of false keel gone; rudder unshipped; the damage to the lee bilge cannot yet be ascertained.

In the absence of any Government Official here, it is my painful duty to report that the whole of Kedgerree village and bazar is swept away, and the Post Master and his family, with a great number of natives, drowned. The Post Office is completely gutted, and the late Post Master's bungalow levelled to the ground. The Tidal Semaphore house and mast are gone, also the inner indek pile, the tandal and men saved themselves floating on the roof of the house. The topmast of the Flag Staff here is blown away. All the Dawk boats missing, also No. 4 Row Boat. One man from her crew has just come in from one, and reports that she parted and swamped during the night of the 4th. The *Megna* was anchored in company with us before the gale. I cannot see anything of her from here. The boat Leadsman is missing, her crew, with the exception of one man, are on board *Salween*. She parted from the warps, she was made fast with astern of us, and the crew scrambled on board during the night. A large ship with only fore and mizen masts standing is on the Jellingham Sand off Gungra.

A lascar of the Steam Tug *Dwarkanath* has just come in and reports that that vessel foundered in Saugor Roads; yesterday morning at 10 he floated on shore below Coucolly.

A boat's crew of the Floating Light Vessel *Hope* are here, they came in the day previous to the gale for stock. Their boat is lost.

This morning I found the body of Mr. Botellho, late Post Master. Owing to the bunds being washed away, and the country under water, I am unable to communicate with the Collector at Contai, the nearest Station. Myself and Chief Officer, with several natives resident here, recognise the body as that of Mr. Botellho; it was found just over the bund to the northward of the burial ground. I have removed it to the burial ground, and if no Official arrives before this evening, will inter it, as decomposition has already set in. The bodies of his wife and family are not yet found. I have picked up some of their clothes, &c.

I am at present engaged in getting the instruments, charts, books, and other valuable stores from the vessel to one of the spare rooms of the Post Office. Some of the books are much soaked.

From MR. BRANCH PILOT G. NOAKS, Comdg. *Kedgerree* Pilot Vessel,
to Offg. Master Attendant,—(dated 10th October 1864.)

I have the honor to report for your information the arrival in Calcutta of the Pilot Vessel *Kedgerree* totally dismasted in a hurricane.

My cruise having expired, I was ordered in by the Senior Officer with directions to proceed to Diamond Harbour and await orders.

On the 4th instant the vessel anchored a little below the Western Reef Buoy with 30 fathoms cable; moderate north-east wind and fine weather; the wind freshened during the afternoon, and cable was given as necessary till 1-30 A. M. On the 5th, when blowing very fresh from the north-east, veered to 70 fathoms on the port cable, and let go the starboard anchor with 30 fathoms. At 6-30 A. M. veered to 95 fathoms on the port anchor, and 75 on the starboard. Endeavoured to get royal and top gallant yards down.

At 8 A. M. still only fresh gale from the eastward; barometer 29.87.

About 9 A. M. wind suddenly shifted to south-east, blowing a perfect hurricane, and we parted from (as I supposed at the time) both anchors, and commenced driving the top gallant masts and starboard quarter boat blowing away.

11-30 A. M.—Vessel laying with her hatches in the water.

Noon.—Vessels till laying hatches under, and having a great quantity of water below in imminent danger of foundering, I cut the main mast away. This did not ease the Brig at all, and the foremast followed when the vessel righted, and we were enabled to get rid of the water on deck and below. Barometer at noon 28.54.

1 P. M.—The hurricane was at its height, the bowsprit was blown out of the vessel, the port quarter boat blew to pieces, and the large boat amidships was struck by a sea to leeward, and hove from its position into the port waist.

3-30 P. M.—Clearing and slightly moderating.

4 P. M.—Barometer 29.20, moderating very rapidly, when we found the vessel, to our astonishment, off Hospital Point; also sighted a vessel ashore.

The port cable was hove in, and we discovered we had lost about 70 fathoms; another anchor was bent; the vessel dropped to Diamond Harbour and anchored for the night. The next morning, on heaving in the starboard chain, we found the stock of the anchor bent only.

Our barometer gave no indication of anything extraordinary till the hurricane was on us, when it fell with unexampled rapidity, the sea was tremendous, and during my period of service, I have never experienced anything approaching to the force of the wind on this occasion.

From The HON^{BLE} A. EDEN, Secy. to Govt. of Bengal, to Depy. Master Attendant in charge,—(No. 4200 T, dated Darjeeling, 15th October 1864.)

I am directed to acknowledge the receipt of your letter No. 2463½, dated 10th instant, with enclosures, and in reply to state that the Lieutenant Governor has read Captain Laycock's Report of the most lamentable effects of the gale with great interest. Captain Laycock seems to have acted with great intrepidity and judgment.

2. His Honor relies upon your using every effort in your power to relieve the Stations and to re-fit the tidal telegraphic masts, &c. He also approves of the arrangements you propose to make for relieving the Pilot Brigs and for docking the *Arracan*.

3. It has given the Lieutenant Governor great pleasure to hear that the gale did not extend beyond Balasore, and His Honor hopes that the Light Vessels will be picked up by the *Celerity*. The whole coast should be very carefully examined, and, as far as possible, all the creeks in the Soonderbuns.

4. In conclusion I am to enquire, with reference to your complaint regarding the difficulty in obtaining labour, whether men cannot be procured from the Sailors' Home for the Dock-yard.

From The HON^{BLE} A. EDEN, Esq., Secy. to Govt. of Bengal, to Officer in charge of Office of Director General of Post Offices in India,—(No. 4201 T, dated Darjeeling, 15th October 1864.)

I am directed to forward herewith, for your information, extract from a report made by the Officiating River Surveyor, Captain Laycock, regarding the effects of the gale of the 5th instant at Kedgeree, and to say that the Lieutenant Governor has read of the sad fate of the Post Master Mr. Botellho and family with very great regret.

From CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal,—(No. 2473 M, dated 12th October 1864.)

In continuation of my letter No. 2463½ of the 10th instant, I have the honor to submit copy of Mr. Master Pilot Vaughan's Report of the hurricane he experienced in the Ship *Martaban* under his pilotage charge.

The information received from seaward since the date of my last Report is, that the Burmah Mail Steamer *Persia* from Rangoon and Akyab, belonging to the British India Steam Navigation Company, is reported to have foundered off the Sandheads, and it has been ascertained that the Pilot Brig *Foam* is at anchor dismasted off Sonapore on the Madras Coast below Ganjam, and I have arranged with Messrs. Mackinnon, Mackenzie and Company, the Agents of British India Steam Navigation Company, that the Steamer *Penang* bound up the Coast shall take her in tow and bring her up. Although the *Celerity* is at False Point, this is necessary, as the Officer in charge of her will never think of proceeding 100 miles to the southward of that Station in search of the Pilot Brigs; and as I have no means of communicating speedily with False Point, and there is a large number of Pilots on board the *Foam* besides the crew, who may be in want of water and provisions, it is impossible to wait until I can convey orders by Post to the *Celerity*, or wait for her return.

I trust soon to be able to report the safe arrival of the *Foam*, and also of the *Chinsurah*, the only other Pilot Brig that was at the Sandheads, and which has not yet been authentically heard of, although there are some vague rumours of her having been seen standing to the southward, which circumstance is of itself most hopeful.

From MR. MASTER PILOT N. W. VAUGHAN, to Depy. Master Attendant in charge,—(dated 12th October 1864.)

I have the honor to report, for your information, the details of the Cyclone of the 5th instant, rode out by me in charge of the English Ship *Martaban*.

On the 4th October towed in from the Eastern Channel by the Steamer *Phoenix*, and anchored at 2 p. m. in the following position.—In Saugor roads, Saugor Lighthouse, south-east by south. Cowcolly Light, north-west half west. Upper Saugor Flat Buoy, east by south,

in 9½ fathoms water and 45 fathoms chain on the port bower. The weather was squally from north-east with heavy rain. Barometer 29° 90' clearing up in the afternoon. Barometer rose to 29° 95' at 10. Squalls from north-east, and rain continuing throughout the night. 1 A. M. of the 5th October barometer had fallen a little, squalls increasing in force. 5 hrs. barometer having fallen considerably and the squalls still increasing in force, let go the second anchor, and paid out chain to 75 fathoms on the port and 60 on the starboard; sent some of the men aloft to send down royal yards, &c., the rest to haul up cable. 6 A. M. wind had veered to east by south, increasing to a heavy gale, called the men down from aloft as it became unsafe for them to remain longer. A heavy sea had set in, causing the vessel to pitch and knock about very much, barometer now began to fall very rapidly in an hour's time, the mercury had gone down an inch, and the spirit on the sympiesometer had very nearly disappeared 8hrs. blowing in terrific fury from east south-east. Jibboom and fore-top gallant mast carried away. 9hrs. Endeavored to pay out more cable, succeeded in paying out a little when the sea broke over the bows so rapidly that I with the men narrowly escaped being washed overboard, the spars at this time began to carry away, main top-mast went. Vessel laboring very much, pitching and lurching heavily, cut away the rigging of the fore-top mast; by this time the wind had increased to such fury that it is impossible for me to describe its strength, the main mast went close to the deck, taking with it the mizen top mast, and head of mizen mast, the fore-top mast likewise carried away.

10hrs. 30 A. M — Barometer 28° 14', the lowest that it fell, the spirit in the sympiesometer had now fallen below zero. 11hrs. a slight rise in the barometer, wind veered to south-east, still blowing with great fury, the wind was now abeam, the ship laying over a good deal with the wreck towing alongside, it being quite out of our power to clear or cut it away. 12hrs. barometer 28° 35', wind south south-east. Twenty minutes after this barometer 28° 85', wind south and decreased in force, sounded the pumps now and previously, but could not tell what water there was in her, from the constant rain and the seas breaking over us, as soon as it was possible to get forward, paid out cables to 90 fathoms on port and 75 fathoms starboard; shortly after this it began to break up, commenced to clear away the wreck by cutting away the rigging that was holding it. 14hrs. 20m. moderate south south-west gale, barometer 29° 41', found 20 inches in the well, rigged the port pump (the main mast lying over the starboard one), rain had subsided, sea gone down, and weather clearing up rapidly. It having cleared up

sufficiently for me to see the land and marks. I was astonished to find myself in the following position :—

Kedgerie house south-west $\frac{3}{4}$ west.
Mud Point „ east $\frac{3}{4}$ north.

Gungra Trigonometrical } west by south half south and in 5
Station. } fathoms water, and as far as I could judge westward of the Jellingham Sand ; my astonishment was great to find myself here, having driven over some of the most dangerous sands in the river without bumping or shoaling my water. The lead was constantly attended to by myself, a deep sea lead was used, and as well as I could judge, we never shoaled into less than 7 fathoms. In tracing the drift of the Ship *Martaban* on a chart, I find that the storm wave must at least have risen 40 feet to have carried me across these sands ; the vessel on deck was a perfect wreck, main mast laying along the deck with the top resting on the starboard rail, having carried away stanchions, covering board, rail, &c. Binnacle broken in, glasses in skylight broken, water casks in lower forecastle stove in, spar lashings on deck carried away, with spars and rigging laying about the decks in all directions, the water alongside began to shoal very fast. At 18hrs. the ship took a broad sheer to port, carrying away the starboard chain at 75 fathoms, the port chain laying across the bow, cut right through the cutwater to the stern, also cracking the starboard house pipe 3 fathoms alongside. At this time ebb-tide, ship's draft 17 feet 6 inches aft and 15 feet 10 inches forward, first day of neaps. Ship laid athwart for sometime when she swung to her anchor, and laid steadily with her head fair to tide, low water, $2\frac{1}{2}$ fathoms least water round the ship. 19hrs. we were quite clear of the wreck, got the spare anchor over the bows, bent the chain and ranged it. On the flood coming in ship floated and swung to the tide, light south-west winds and fine through the night, barometer $29^{\circ} 30'$.

On the 6th October at high water, 2 A. M., commenced heaving in, started the anchor at 5hrs. 30m., and let her drift down with the ebb-tide, having observed the evening before that we were lying in a horse shoe on Jellingham Sand. 6-30 A. M. took the ground, swung with her head to the southward, and remained perfectly upright, got out our boat that we have saved (the one on the davits having blown away shortly after the Cyclone had commenced), and sent her out to sound, found we have grounded on a ridge, the water to the southward gradually increasing and shoaling on both sides. On the flood paid out cable and brought up, having floated immediately the tide began to rise. I sent

the Chief Officer up to Mud Point with an Official Telegram in preference to Kedgerree, having noticed that the Telegraph Office at the latter place was blown down; he returned, reporting that the Telegraph Office had been deserted, the whole country had been inundated, and the corpses of men and animals strewn over the place

At high water hove the anchor up, letting the ship drift down with the ebb-tide, keeping the boat sounding to the southward. By this means I got into Kedgerree green and brought up at 5 h. 30 m. p. m. off Kedgerree in five fathoms water and forty-five fathoms chain, vessel making no water. 7th October proceeded with the Captain to a wreck we had seen to the southward; this we found to be a Tug Steamer with her funnel gone and her head to the eastward laying abreast of Hidgellee River about a mile from the beach. The Steamer had new rigging and apparently new, returned to Kedgerree, pulling up close to the bank; found nothing but dead bodies thrown up in all directions, and the river strewn with them. On landing at Kedgerree it presented no better an aspect; the Post Office was washed clean out, Post Master's house fallen down, himself and families drowned, trees rooted up, and dead bodies lying about.

At 2 p. m. we sighted the Steamer *Alexandra* steaming up from the southward along the western shore; hoisted the signal to be taken in tow, which she answered, and anchored close to us. 8th October took us in tow on the flood and proceeded to town.

I am sorry I could not forward this report sooner.

From the HON'BLE A. EDEN, Secy. to Govt. of Bengal, to Depy. Master Attendant in charge,—(No. 4128 T, dated Darjeeling, 11th October 1864)

I am directed to request that you will submit, for the information of the Lieutenant Governor, a full report of the damage done to the Shipping, both Government and private, in the Port and river and at the Sandheads, and to the Dock-yard, by the gale of the 5th instant. Also that you will report on the measures taken by the Officers of the Marine Department to save life and property and to mitigate the effects of the storm.

From CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal,—(No. 2479 M, dated 13th October 1864.)

In continuation of my letter No. 2473 of the 12th instant, I have the honor to submit, for the information of His Honor the Lieutenant Governor, a copy of a Memorandum of the damage done by the late Cyclone, drawn up by Lloyd's Agent, as far as could be ascertained up to date.

I have preferred adopting this statement to any I could have prepared, because it having been compiled for the information of the underwriters, it may be sufficiently depended upon, subject to corrections and additions which will be made from time to time, and because with all our hands employed on active duties, it has been impossible as yet to make any compilation in this Office, the Harbour Masters getting one ship off after another, not having time to make reports and not seeing their homes for days together.

The next report will be made up to the 16th, and a copy shall be submitted for further information, as also a correct list of the casualties to the Government Vessels. The only Inland Vessels that have suffered being, as before reported, the Steamers *Adjai* and *Ganges*, and the Floating Church *Dallah*.

Some anxiety is felt for the *Proserpine*, which left the Sandheads for Akyab at 1-30 P. M. of the 2nd instant, but allowing her to have made only 7 knots an hour from that time, she ought to have been in Akyab Harbour by 8 o'clock in the morning of the 4th; and as the *Burmah* went in on that morning and was to have left the same evening, there could not have been very bad weather on the Coast of Arracan at that time.

In reviewing the wide-spread devastation committed in the Port by this Cyclone, and the utter powerlessness and destruction of our means of security against such a visitation, the consideration naturally offers itself what can be done to guard against a return of the present disasters.

The only really efficient and secure measure that can be adopted is the construction of Wet Docks for the accommodation of the Shipping; but this must necessarily be a work of years.

Again, if a portion of the Shipping were diverted to the Mutlah, which must ultimately be the case as soon as there are more appliances in that Port, the danger arising from ships driving adrift, and from collisions in a gale of wind in such a crowded Port as this, will be divided and consequently lessened. I consider this of great importance, and res-

pectfully suggest that Government should afford every encouragement and necessary aid to complete the requirements at Port Canning. The leading ship-owners of London are alive to the importance of the new

Messrs. Money, Wigram, and Sons.

„ R and H Green

„ Somes Brothers

„ Thomas and W Smith.

Port, and have signified their opinion that “when the necessary accommodation, such as docks, wharves, jetties, &c., is provided, the Multah, being the

shortest, safest, and the more economical route, will be generally selected, in preference to the Hooghly, by all classes of Shipping, more especially now that the new Port has direct communication by Railway with Calcutta.”

The next point is the moorings, and very little more can be done to make this more secure than they were before the gale than to add to their length, so as to give the ships greater scope, and thus prevent sudden short jerks.

In June 1842, when a disaster similar to the present one occurred, only that the ships were mostly driven ashore on the Calcutta side, the moorings, which had previously consisted of anchors of 42 cwt, were re-placed as soon as possible by anchors of 65 and 70 cwt., and the chains laid down were of the heaviest description, while new posts for shore fastenings, 22 feet long by 2 feet square, of the best sal wood, were supplied all along the river bank.

It does not appear necessary to have heavier anchors, but longer scope of chain, and this will necessarily reduce the number of moorings, and consequently the accommodation and room in the Port for ships, and will be additional and strong inducement for ships to resort in considerable numbers to the Mutlah.

In connection with the moorings is the following Regulation,*

* None of the anchors are known to have started, the ground chain next to the anchor is 2½ inches, and the next length to which the ship's chain is shackled is 2 inches. This chain may in future be 2½ inches, but it is doubtful if buoys can be built to hold up in the freshes any greater weight than at present, even now the buoys are under water during the strong tides.

which I recommend should be rigidly enforced on all ships going into them or entering the Port in addition to the existing Port Rule, which provides that all vessels shall strike their yards and masts if required to do so by the Master Attendant.—

That from the 30th September, until after the full moon of November, no ship in the Port shall be allowed to have top-gallant yards or top-gallant masts aloft, and that they shall in addition strike top-sail yards and top-masts when required to do so,

The present rule is not sufficiently absolute for the occasion, it being applicable from time to time, whenever the barometer may give indication of a change in the weather; but on the recent occasion the barometer gave no warning until too late to send orders round to 250 ships, and the Flag-Staff, upon which a signal used to be made to the Shipping on such occasions, no longer exists, but may be re-erected.

Immunity from danger for a long series of years has apparently induced Commanders of ships in the moorings to look upon their vessels as safe as if in Dock, and being secure from the influence of the fieshes, precautions against other dangers have been disregarded.

Thus, during the Cyclone, ships were to be seen with their skysail masts on end and yards across, while almost every ship had her royal masts up and top-gallant yards across.

When the ships were on their broadsides in tiers 4 and 5 deep, it was impossible to cut away the masts, since they would have fallen on board the other ships, and probably have killed the greater portion of the crews; but there is every reason to believe that, if all, including the lower masts, could have been cut away, much loss and damage would have been prevented; but Sailors are very hard to be persuaded to cut away their masts in what is considered a sheltered harbour, and to adopt a resource generally in their previous experience only resorted to when on a lee shore and in a heavy sea, or in an open and exposed roadstead..

It must, however, be borne in mind that all these precautions might not have availed, although, when possible, it would have been proper to have used them, for at the last moment it was the storm wave that lift the ships and tore them from their moorings.

I beg to solicit the consideration of His Honor to the above suggestions.

SHIPS LOST,

Alexander John Kerr.—With salt on board; capsized at Cossipore.

Ally.—With Coolies on board, lost near Diamond Harbour.

Azemias.—Sunk on the Howrah side of the river on the evening of the 5th instant.

Baron Renfrew.—Totally lost near Diamond Harbour; crew saved and brought up to town in the Steamer *Defiance*.

Hospital Steamer *Bentinck*.—Lost near Diamond Harbour, crew and invalids saved.

Gobindpore.—Laden for Mauritius; sunk off Calcutta.

Lew Chew—Laden for Colombo; sunk off town; full of water; some of the spars and gear may be saved.

Vespasian.—Bound for Colombo; wrecked off Calcutta.

Ville de St. Dennis.—Bound to Mauritius; lost off Calcutta.

SHIPS IN A DANGEROUS POSITION.

Asteroid.—High and dry at Cossipore; port side much up.

Anne Royden.—On shore at Goosery; much strained and several feet of water in her hold; being lightened.

Azzopurdi.—Still on shore at Seebpore; discharging.

Amiral Casey.—In a paddy field below the Botanical Gardens.

Aladdin.—On top of the Railway pier; much hogged

Anne de Bretagne.—Afloat, but almost a wreck.

Bottnest.—Aground in a bad position; discharging.

Carribean.—On shore at Seebpore; discharging.

City of Paris.—High and dry at Cossipore; will have to discharge.

Earl of Clare.—Ashore at Barnagore; sustained considerable damage.

Fazrobany.—On shore; bilged.

Great Tasmania.—Aground; all but a wreck.

Glenroy.—Still on shore in an extremely bad position, and very much damaged.

Hanover.—On the Goosery sands in a very bad state; discharging.

Hindustan.—Still on shore at Cossipore; dismantled and jammed with other ships.

King Arthur.—Ashore at Cossipore; not likely to come off; discharging cargo

Lady Rawlinson.—Ashore at the bottom of Garden Reach.

Macduff.—On shore; straining and very much damaged

Pride of Canada.—On shore and apparently settling down; making no water.

Richard Busteed.—Still high and dry at Cossipore, with loss of all her masts (excepting fore-masts) and other considerable damage; making no water.

Romania.—Still high and dry at Prinsep's Ghat; has not sustained much damage.

Steamer Sydney.—Still on shore on Cossipore sands.

Sir William Eyre.—On shore in a bad position.

Southern Cross.—Still high and dry at Nimtollah.

Southampton —(Country Ship) almost a wreck.

Solway.—On the Goosery sands, sustained severe damage.

Sir Jamsetjee Family.—Still on shore in a most dangerous position; very much damaged.

Steamer Thunder.—Still on the top of a wreck off Bankshall, every effort being made to save her.

Tartar.—Still on shore on the Goosery sands.

Talgar.—High and dry at Cossipore, much damaged; masts gone.

Taragon.—On shore at Howrah in a very awkward position.

Ville de St. Pierre.—On the bank in a very bad position; discharging.

Victoria Bridge.—Still high and dry at Cossipore.

Western Star.—Still high and dry at Seebpore.

Winchester.—On shore at Cossipore; straining a little; discharging

P. & O. Co.'s *Steamer Bengal*.—On shore above Bishop's College, believed to be uninjured.

Futtay Allum, Futtay Shah Allum, and Seastrois.—Country Ships; nothing further particulars ascertained.

Indian.—High and dry at Cossipore, a little damaged.

SHIPS WHICH MAY COME OFF BEFORE OR ON NEXT SPRINGS.

Amun Shah —Country Ship.

Annoollynor.—On shore above the Mint; discharging.

Bolton Abbey.—On Seebpore sands; jettisoning salt

Brought on Hall.—Still on shore at Ramkistopore; discharging.

Continental.—On shore on Goosery sands; stern posts not gone, jettisoning cargo.

Esmeralda.—High and dry at Cossipore.

Gustave et Louis.—High and dry at Prinsep's Ghat, discharging.

Hampden.—Still on shore above the Mint.

Hannibal.—On shore at Seebpore in an awkward position.

Kenyon.—Ashore at Cossipore, lost main and mizen mast; hull apparently all right, discharging.

Lady Palmerston.—Considerably damaged.

Latona.—Ashore at Seebpore; now discharging.

Leonide.—Perfectly tight; about 400 tons of salt jettisoned.

Mporesfort.—Still ashore on Goosery sands; discharging.

Muzapore.—Still ashore at Cossipore; jettisoning salt.

Monayshire.—On shore at Seebpore; considerably damaged.

Steamer Mauritius.—Still on shore in a dangerous position on the Howrah side ; discharging.

Medusa.—Still on shore at the Mint ; discharging.

Steamer Nada.—Still on shore off Clive Street Ghat

Newcastle.—Still on shore at Seebpore in a rather critical position ; discharging.

Prince Royal.—Still on shore at Cossipore.

S S. Panjab.—Still on shore ; shows little sign of straining.

Queen of the Age.—Still on shore ; some of her cargo damaged.

Southern Bell.—Still on shore ; not much damaged except in rigging.

Singapore —See further on.

Speedy.—Very badly damaged.

Sophia Joakim.—Still ashore at Cossipore ; stern broken.

Simla.—Still ashore at Cossipore ; jettisoning salt.

Alphonse et Nebie.—Afloat ; badly damaged.

Aaron Brown —Broke adrift in the Cyclone and went on shore at Seebpore, but has since floated. Hull severely chafed, and lost fore top mast, jib boom, &c., &c.

Ally Akbar Shaw.—Rudder gone ; ship a good deal chafed.

Annot Lyle —Still on shore at Seebpore ; jettisoning salt.

Alarie.—Now afloat.

Astronomer.—Afloat off Seebpore.

Agra.—Still ashore ; discharging.

Beamaris Castle.—Moored off Howrah Docks ; sustained some damage to masts, bulwarks, &c., &c.

Ormandef.—In a bad state before the Cyclone ; no particulars since.

Ceylon —Can be repaired out of Dock.

Childwall Abbey.—Safely moored ; reported that she will have to discharge 2 at 300 tons

Clytemnestra.—Top sides knocked away ; stern stove in ; damage very considerable.

Collingwood.—Now afloat ; damage very considerable.

Cheshire.—On shore, but making no water ; will likely have to jettison salt.

Celime.—Capsized in Dock, but has since come out.

Calumet.—Chafed and has lost some spars.

C. N.—Bows, sterns, and bulwarks severely injured ; makes no water.

Carobel —On shore above Howrah Railway Station, sustained considerable damage.

Camperdown.—A hole in her bows and stern.

Dirigo.—On shore and nearly on her beam ends ; spars, anchors, and chain gone.

Eastern Belle.—Agents report that they can give no particulars ; not having seen the Captain.

French Empire.—In safety and escaped with comparatively little damage.

Foranhall.—Left port in tow of a Steamer this morning.

Georgiana.—Afloat ; not vitally damaged.

Geni —Now afloat.

Harry Warren.—Afloat , discharging.

Krishna.—Grounded, but has since come off ; making no water.

Lincolnshire.—Afloat off the Docks.

Manilla.—Afloat ; discharging.

Merrie England.—Afloat ; much strained.

Mahratta.—Safe and very little damaged.

Monmouthshire.—Afloat, but much damaged in her upper works, &c.

Metis.—Remains on shore, locked in by other ships.

S. S. Moulmein.—Making no water.

Nagasaki —At Moorings ; a little chafed.

P. and O Co.'s Steamer *Nubia*.—Being got ready to take the next homeward Mail.

P. and O. Co's Steamer *Nemesis*.—Refitted and is intended to take the following Mail.

Nowelle Ascension.—Was ashore, but is now afloat ; sustained considerable damage.

Nimrod.—Still aground ; very much damaged.

Steamer *Orissa*.—Damage not very severe.

Oanita.—Got clear of the wreck of the *Azemia*, and is now in safety ; damage comparatively small.

Steamer *Reiver*.—Carries this Mail to Galle.

Royal Alexandra.—Reported to be afloat.

Red Rose.—Ashore at Barnagore ; sustained considerable damage.

Sir John Lawrence.—(1,019 tons) afloat ; but very badly damaged.

Sir John Lawrence.—(699 tons) a hole in her side, lost her main mast.

Sara and Emma.—Sustained some damage ; having been fouled by the P. and O. Co.'s Steamer *Nemesis* the morning after the Cyclone.

Sultana.—Safe in dock.

Sea Horse.—Afloat ; damages not yet fully ascertained.

Salsette.—Afloat ; must dock.

St Philbert.—Still on shore.

Taluvera.—Several holes in her side.

Thalatta.—Afloat, makes no water at present

Tchernaya.—On shore on a brick Ghat at Cossipore; a good deal damaged.

Tinto.—Still on her beam end in Dock.

Thorndean.—Afloat in the stream and little damaged.

William Fairburn.—Sustained some damage; but cargo uninjured.

Western Star.—Still ashore at Seebpore.

Wide Awake.—Very badly damaged.

Waterloo.—Afloat; very severely damaged.

Western Empire.—On shore at Ghosery.

Singapore (French).— } Sunk off town; crew of both ships saved,
Lady Franklin — } we believe.

In addition there were in Port at the time of the Cyclone a few ships (chiefly in the hands of Natives), respecting which we are not yet able to furnish any particulars.

GOVERNMENT SURVEYING VESSELS.

Salween and *Megna*.—High and dry at Kedgerree.

Gaspar Light Vessels not at their Station.

Buoys in the river from Saugor upwards in their Stations.

TUG STEAMERS.

Hercules.—Lost paddle-boxes, masts, funnel, &c.

Alligator.—On shore; may possibly be got off.

Interloper.—On shore, but has got out; suffered considerable damage.

Alexandra.—Arrived off town safely, having in tow the ship.

Mataban.—From Liverpool, dismantled.

Phoenix.—Lost, some of the crew saved.

Banshee, *Linnet*, and *Sattellite*.—Lost.

The P. and O. Company's Hulk *Hindostan* broke from her moorings the morning after the Cyclone, fouled one or two of the Company's Steamers, and ultimately sunk in Garden Reach.

CALCUTTA, } GLADSTONE, WYLLIE AND Co,
 The 10th October 1864. } Agents to Lloyds.

From the HON'BLE A. EDEN, Secy. to Govt. of Bengal, to Depy. Master Attendant in charge,—(No. 4215 T, dated Darjeeling, 18th October 1864.)

I am directed to acknowledge the receipt of your letter No. 2479 M, dated the 13th instant, submitting a Memorandum of the damage done to the Shipping by the late Cyclone, drawn up by Lloyds' Agent, and offering suggestions in view to the better security of vessels while in Port.

2. In reply I am to say that the Lieutenant Governor has perused the long list of casualties with great pain, but hopes that very many of the stranded ships have been got off during the late spring tides.

3. I am to express a hope that the anticipations entertained of the safety of the *Proserpine* are correct.

4. His Honor approves of your proposal to add to the length of the mooring chains of the Port so as to give ships greater scope, and thus prevent short and sudden jerks.

5. The importance of pushing on the works at the Mutlah to completion is, I am to say, fully recognized by the Lieutenant Governor, and has been urged on the attention of the Government of India. Much, however, both in regard to the Mutlah as a Port for Shipping, and the Wet Dock scheme for Calcutta, depends upon the practical interest in these undertakings shown by those connected with the trade and Shipping of the Port of Calcutta.

6. His Honor sanctions your proposal to make an absolute Regulation that no ship entering the Port shall, between the 30th of September and the full moon of November, be allowed to have top-gallant masts or top-gallant yards aloft, and that they shall, in addition, be compelled to strike their top-sail yards and top-masts when required to do so by the Master Attendant.

7. I am to request that steps may be taken for the re-erection of the Flag Staff formerly used for signalling to ships indications of the approach of bad weather.

From CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal,—No. 2504 M, dated 17th October 1864.)

In continuation of my letter No. 2479 of the 13th instant, I have the honor to submit herewith statements of damage done to the Government Vessels, to the Moorings, to the Dock-yard, and to the Stations connected with the Port down the river as far as has yet been ascertained.

The two Yachts were in the Mud Dock, had they been outside they would inevitably have foundered. The *Soonamookey* is uninjured, but the *Rhotas* has sustained some damage, having been thrown over on her broadside and her stern and counter-lifted by the wave that came in on top of the bund, on digging away which it was found that the bottom thereabouts had bilged in. A water-tight compartment is being put across the vessel just before the injured part preparatory to the adoption of other measures to rescue her from her present position, and I hope on the next springs the vessel will be recovered upright and floated safely into the river.

I submit a further statement drawn up by Lloyds' Agents, showing the position of the Shipping in the Port up to the latest moment, this will be added to hereafter.

As regards progress in the work, and reports from the Sandheads and from False Point, I beg to state that the *Celerity* returned on the 13th from False Point and Point Palmyras; she reported that on the way down all the Light Ships and Pilot Brigs were off their stations and not to be seen; the gale had been very moderate at the Point, and the people there in want of no assistance; they saw no wrecked ships or any vessels in want of assistance, and on their return to the Sandheads they found the Pilot Brig *Chinsurah* at her station in perfect order, and the *Comet*, Light Ship, also at her's, so that the Station at the Sandheads is being maintained, and the Eastern Channel properly lighted, the *Saugor* and *Deva* having been sent from Calcutta in anticipation to replace any Vessel that might be missing.

The *Star*, Light Ship, was also safe, though dismasted, she has been brought up to town, but I regret to say that nothing has been seen or heard of the *Hope*, Upper Gasper Light Ship, and it is feared that she has foundered with all hands that were on board, a portion of the crew had come in to Kedgerree for provisions the day before the gale.

The *Star* parted from her second anchor or at 3 A. M. on the 5th instant, and the crew became so panic-stricken that they could not be got to work, so the vessel drifted at the mercy of the wind and sea over the sands, striking heavily several times, but eventually brought up in 8 fathoms to the northward of Balasore roads. The vessel at one time had 6 feet water in her hold, but when the gale abated was pumped out dry. Several vessels have been over to the Western Coast and have traversed the Sandheads from the Eastern Channel Light Station to False Point and back, up to Balasore roads above Piplely, and sweeping the Coast by the inner Channel up to Kedgerree, but no signs of the *Hope* in that direction. The *Star* returned to the Sandheads across the Western Brace and was equally unsuccessful.

The Steamer *Lady Elgin* also cruized outside for several days and went over to the westward, and then to the southward and eastward, a considerable way out to sea, returning by the Pilot's ridge, but fell in with no vessels in distress and saw nothing of the *Hope*.

A copy of the Commander's Report, as also one from Branch Pilot Gernon, is annexed. The Steamer saw some wreck and part of the mast of a large ship; she boarded the Ship *Golden Horn* in the Eastern Channel, which reported having picked up two lascars on a spar, who stated that they had been on it for two days; that they were part of the crew of the Steamer *Persia*, which had turned over during the gale while running in for the Light Vessel.

A copy of the Report of the Commander of *Chinsurah*, Pilot Brig, is also annexed. This vessel, under the excellent management of Mr. Branch Pilot T. Smart, an Officer of long-trying experience and merit, weathered the gale in safety, though not without damage, and took up her station at once on regaining the Sandheads on the morning of the 12th October.

The *Chinsurah* stood to the southward during the forenoon of the 4th, having up to that time been employed on the usual duties of supplying vessels with Pilots and taking Pilots out. The gale increased during the afternoon and night, and from 10 P. M. to 1 A. M. on the 5th it blew a furious hurricane from E. N. E. round by N. E., north N. W. to west, (barometer at midnight 28-80,) at daylight blowing hard from W. S. W.; this is contrary to the course of the wind up here, which was N. E. east, E. S. E., S. E., south S. W., which proves that this was a Cyclone of the usual rotatory nature following the ordinary course up the day.

The *Celerity* was despatched again to the Sandheads on the 14th with stock for the Pilot Brig, and provisions and water for distressed ships, and with directions to proceed on this occasion to the eastward, and communicate, if possible, with the *Charlotte*, which had been sent out to look after the Light Ship *Krishna* at the Mutlah Sandheads. She was then directed to search, if necessary, for the *Krishna* or any other vessel, and after looking in at the Mutlah Channel to make a long sweep to the southward and eastward and return to the Sandheads on a curve 30 miles south, then to proceed across to the westward to make another effort in search of *Hope*. The whole face of the Sandheads from nearly the Swatch to the Western Coast will then have been carefully examined, while the sea-face of the Soonderbuns has been examined by the *Koladyne*, which returned on Saturday night 15th, after a careful search as far as Bungadong Island, without observing any trace of wreck or distressed people. Coming back, the *Koladyne* brought up 350 chests of opium that had been wrecked in the Subtermookey in the Bengal River Steam Company's Flat; the opium is reported to be uninjured.

The *Koladyne* also brought up as far as Budge-Budge the River Surveying Vessel *Megna*, which had been got off from where she had been stranded at Bellary. A copy of the Commander's Report is annexed.

<i>Fame</i> <i>Kedgeroe.</i> <i>Guide</i> <i>Grappler.</i>	<i>Star</i> <i>Megna</i> <i>Foam.</i>	The work of getting the ships off in the Port is going on as affectively as I believe could be expected, and very few ships comparatively will remain on shore after to-morrow; those that do will have to wait for the next spring; while the re-mast-
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ing and re-sparring the Government dismasted vessels named in the margin is progressing rapidly, spars having been procured, and workmen in large numbers.

We have had to take all the masts out of the *Mutlah* but the main mast, and to dig a trench to get her off from the bank at Seebpore, but have failed these springs.

The *Prince Arthur* is in Dock, and will, I hope, come out in a week's time, eight days after which she may be ready for sea.

The *Arracan* was docked to-day, and will be ready about the same time.

The Government Dock gates have been opened for the admission of vessels three times since the gale; no other Dock gate in the Port has yet been able to be opened.

The Screw Steam-ship *Mauritius* came off last night, but is now reported to have 14 feet water in her, and is about to be run upon the beach.

Mr. Hoskins, Officiating Port Master of Canning, has returned from cruizing in the Mutlah and at the Mutlah Sandheads in the *Charlotte*, but, I regret to state, has seen no signs of the *Krishna*, Light Ship. The *Celerity* is now, as before said, making further search, and in the mean time I have ordered the *Charlotte* to take up the duties of Light Vessel for the entrance of the Mutlah Channels.

List of Government Vessels in the Master Attendant's Department which, suffered during the late Hurricane.

Deva, Reserve Vessel.—Lost cathead and wiskers, portion of her moulding and rails, and two forecastle stantions; hull in good order; has been since fitted out and despatched as a Light Vessel.

Fame, Reserve Vessel.—Main-mast sprung, and portion of the rough tree rail carried away; mooring bitts gone, otherwise hull in good order; figure head damaged.

Guide, Reserve Vessel.—Three anchors lost, bowsprit and fore-top-mast sprung; several stantions of topsides, rough tree rail, and bulwark smashed; two catheads broken, windlass injured; jibboom broken, ten sideports injured; driver boom sprung; the hull in good condition; jolly boat lost, mooring bitts carried away; channels much injured; sheer streak and covering board much injured, stern damaged.

Grappler, Buoy Vessel.—Bowsprit, foremast, fore-top-mast, jibboom, main-top-mast carried away.

Guide.—Mizen gaff-sprit sail yard, port cathead, port moorings davit cabooses all broken and destroyed, deck forward on both sides, store in, rudder gone, and much other damage.

Mutlah, Pilot Vessel.—High and dry at Seebpore, to be got off, damages numerous, but not serious.

Kedgerree, Pilot Vessel.—Masts, yards, rigging, one suit of sails, bowsprit, and every thing above the deck carried away and lost; hull uninjured.

Foam, Pilot Vessel.—Dismasted, and at anchor below Ganjam.

Megna.—On shore down the river; assistance sent to her. Since brought up to town.

Salween.—On shore at Kedgerree, dismasted, assistance sent.

LIGHT SHIPS.

Hope.—Off her station, not heard of, search is being made.

Star.—Brought up to Calcutta with loss of foremast.

ANCHOR BOATS.

Vulcan.—Fore-mast, top-mast, rudder gone; extent of damage to hull not considerable; will be repaired and put to work in the harbour; recovering moorings.

Lever.—On shore high and dry; will be got off immediately.

Moyapore Row Boat.—Lost.

Moyapore Magazine.—Much damaged by the inundation; 3 feet water on the Magazine floor, 5 feet on the Office floor; people saved; gunpowder damaged; portion of the premises blown down.

Cowcolly Lighthouse.—Sustained some damage in upper story, and light kept in with difficulty. Application has been made to Public Works Department for repairs. Lighthouse much shaken; out-offices blown down.

Floating Light *Krishna*.—At Mutlah Sandheads, missing.

Statement showing the number of Fixed and Swinging Moorings in the Port of Calcutta that were lost and saved during the Cyclone of the 5th instant.

Garden Reach Moorings	Moorings off P and O Co's Premises	Lost	Saved	Cooly Depot Moorings	Lost	Saved	Moorings off I G & N Co's Premises	Lost	Saved	Kidderpore Moorings	Lost	Saved	Cooly Bazar Moorings	Lost	Saved	Punsep's Ghat Moorings	Lost	Saved	Pilot Brigs and State Yacht Moorings	Lost	Saved	Esplanade Moorings	Lost	Saved	Galutia Moorings	Lost	Saved	Salt Gola Moorings	Lost	Saved	Railway Moorings	Lost	Saved	Moorings between the upper and middle Howrah Docks	Lost	Saved	Docking Swings in Moorings off the bulwarks Docks	Lost	Saved	
3	1	4		0	2			0	3				42	16	11	4	9	4	22	1	105	15	1	4	0	1	4	0	4											

Total number of sets lost . . . 210
 ” ” saved . . . 60
 Mooring Posts, with chains, lost . . . 4

The Hulk *Mattabangah* is lying high and dry on the river bank with a number of large holes in her bottom, and is not worth repairs.

The two Anchor Boats will be floated these springs. They have received some slight damage.

One of the Heave-up Boats that was stranded has been got off, and the others will be floated as soon as possible. Several of these boats have sustained damage, but can be employed for the present.

Harbour Master's Bholeah has been recovered and hauled up on the bank.

Memorandum of Boats that have been lost and stranded during the Cyclone of the 5th instant, belonging to the Harbour Master's Department .—

DESCRIPTION OF BOATS.	LOST.	STRANDED.
Hulk <i>Mattabangah</i> (Iron)	0	1
Heave-hard, Anchor Boat (Iron)	0	1
<i>Hercules</i> , Ditto (Wooden)	0	1
Heave-up Boats (Iron) .. .	2	0
Ditto (Wooden)	1	2
Hawser Boats (Wooden)	2	7
Treasure Boat (Iron)	1	0
Fire Engine Boats (Iron)	0	2
Ditto (Wooden)	1	0
Harbour Master's Bholeah (Wooden)	0	1

Memorandum of the present condition of several Vessels, Boats, and Buoys under the control, or in the charge of the Superintendent of the Dock-yard as affected by the Hurricane of the 5th instant .—

Arracan —In moorings; very slight damage done to her sky lights and awnings

Prince Arthur.—In dock; escaped without injury

Lady Canning.—In moorings; slightly damaged after bits and chocks started.

Bentinck.—Stranded at Diamond Harbour. Her flotation to any useful purpose is questionable

Proserpine —Left Sandheads for Akyab on the 2nd instant, present condition unknown.

Sir William Peel.—Escaped with no material injury. At Dacca on the 12th instant.

Koladyne.—Escaped without injury.

Adjai.—Stranded upon Fort Point. Broken and doubled up before and abaft the machinery. Hull apparently irremediably a wreck. Engines uninjured. Jolly Boat lost.

Ganges—Stranded, but since floated off. Paddle wheels and boxes and sponsons much damaged, also the houses on deck. Hull slightly strained, but no material injury apparent.

Jaboona.—In moorings; escaped without material injury.

Rhotas.—Bottom badly damaged from being lifted by the storm wave upon the piles forming the side of her dock, where she still remains. The final result of the injury inflicted, together with her present position, is at present uncertain, but it is hoped that she may be floated off without further damage and eventually saved.

Soonamookey—Escaped with slight damage to the roof and purdahs.

Coal Boats.—One lost when alongside the *Adjai*, one safe in the Dockyard, and the third stranded at Ooloobariah, but since recovered without material injury.

Lieutenant Governor's Bholeah.—Damaged by the falling of a Shed slightly.

Three Bholeahs, Nos. 1, 2, 4—Uninjured.

Two State Baggage Boats.—Uninjured.

Government, India, large Cutter.—Uninjured.

Kedgerie Dock Boat No. 5.—Lost.

River Police Boat, Southern Division, No. 4—Lost.

Two Mud Boats, 2 Cutters of *Tubal Carn* condemned, 5 old Boats condemned—Lost.

Five old second class buoys undergoing repairs.—Lost, but some will probably be recovered.

Channel Buoy with yard.—Several slightly damaged.

Mooring Buoys, Wooden.—One lost.

Hen coops, sheep pens, &c.—Several damaged.

From JOSEPH OBBARD, Esq , Offg. Supdt., Govt. Dock-yard, to Depy. Master Attendant in charge,—(No 87 M, dated 17th October 1864.)

I have the honor to submit the following Report of the loss and damage which have been sustained in the Dock-yard from the late Cyclone.

The damage which has been inflicted is, in the aggregate, very heavy, and it is chiefly felt in the destruction of the sheds and workshops, for, although several of these were in a crazy condition, and inconvenient in some respects, the total loss of them at the present time causes most serious interruption in the prosecution of the urgent work which is now in hand.

In the Office of the Superintendent of the Yard, the sky-lights are blown off, leaving them perfectly exposed; some of the windows and doors are blown in or shattered; the building itself much shaken; much of the plaster down, and the roof leaking badly.

The details of the damage done to the buildings in the Subordinate Departments are shown in the Memoranda, which are herewith submitted.

The Chief Superintending Engineer has the honor to forward, for the Superintendent's information, the following detail of damage done to the Government Steam Factory and Steam Dock-yard Buildings under his control, caused by the hurricane of the 5th instant, viz .—

OFFICES.

Doors, No. 2, leading to the roof, destroyed.

Ventilators, No. 2, of Teak, blown away.

Ventilators, No. 2, blown off their seats and much damaged.

Parapet, slightly damaged.

Roofing, damaged and leaky.

No. 5, window shutters, destroyed.

„ 2, Circular shutters, destroyed.

„ 1, Circular sash, destroyed.

„ 2, Circular sash, damaged.

„ 3, Squan sash, destroyed.

„ 1, Squan sash, damaged.

„ 1, Sun-shade, damaged.

„ 1, Sun-shade, destroyed.

Plastering, more or less damaged.

Boiler Shed —Nine feet of brick gable coping blown down and otherwise damaged.

No. 12, square of the corrugated iron, blown away, and the greater portion of the corrugated roofing loosened. Ridge covering blown away, 3 Timber Rafters broken, and portion of covering boards blown away, and damaged. The spouting and stock-piping partly blown down and otherwise damaged.

Lantern Roof covering is partly stripped, and four timber frames and sashes blown away.

Plastering, more or less damaged.

Machine Shed.—Chimney shaft of the 20-Horsepower Engine blown down to about 10 feet from the base, the part standing more or less fractured.

Five brick columns damaged by the above.

Two gable corners damaged.

One timber lintel broken 12" × 8".

Fifteen timber rafters.

Timber covering partly blown away and otherwise damaged.

Roofing and spouting partly damaged.

Old Blacksmiths' Shed —The whole of the roof-tiling damaged and destroyed, one-half broken, the other half blown away.

Pattern Shed.—Roof leaky and one door damaged.

Coppersmiths' Shed.—Roof leaky.

Iron and Brass Foundry.—Roof damaged and leaky.

Punching Machine Shed.—Coping slightly damaged, one door and two shutters broken.

Old Engine House.—Roof damaged and leaky.

Turnery.—Door and frame blown out and broken.

Five windows and sashes broken and blown away.

Five windows and sashes much damaged.

Plastering damaged.

Vice Loft.—Twenty-two windows and sashes destroyed and blown away.

Thirty-six windows and sashes destroyed.

Roofing leaky.

Old Boiler House and Chimney —Roof leaky.

Chimney fractured in several places.

Steam Dock-yard.—Building Sheds, No. 2, nearly unroofed and unsafe to work under.

Blacksmiths' Shed previously unroofed.

Range of forges for ship building, roof blown down.

Moulding loft thatch roofing partly destroyed.

Store and Sircar's Godown damaged.

Buoy Shed.—Entirely unroofed and otherwise damaged.

Tank Shed.—Partly unroofed and otherwise damaged.

Chief Superintending Engineer's house.

Roof—Very leaky, terrace door damaged.

Parapet on east side thrown down.

First floor, east side.—Seven glass doors damaged and blown away.

Seven venetian doors damaged and blown away.

Middle rooms and landing.—Three glass doors damaged and blown away.

Five venetian doors damaged and blown away.

First Floor, west side.—Three glass doors damaged and blown away.

Twelve plain and venetian damaged and blown away.

Walls, more or less, stripped of plaster.

Verandah, South.—Two venetians and frames and shutters blown away, the remainder more or less damaged.

Two partitions blown down and the walls stripped of plaster.

Terrace North.—Railing or balustrade blown down and broken.

Brick-work damaged.

Ground Floor.—Three glass doors broken and blown away.

Twenty-eight plain and venetian broken and damaged, some blown away.

Out-houses.—Cookhouse and Godowns leaky and otherwise damaged.

Stable.—Partly blown down and roof damaged.

Gates.—Fastenings broken and otherwise damaged.

Walls.—Damaged.

W. H. SANDEMAN,

Chief Superintending Engineers.

GOVT. STEAM FACTORY, }
The 12th October 1864. }

Memorandum of damages caused by the late Hurricane to the premises attached to the Naval Store-keeper's Department.

Naval Store-keeper's Offices, sky-lights blown off. Doors all more or less damaged.

Small godowns, back of Office, damaged.

Iron Shed partly unroofed and broken at places.

Walls and doors of the old contractor's godowns broken.

Jail loft doors and windows, and all the godowns from Nos. 1 to 12, damaged.

Issue Godown doors broken.

Chain shed, nearly half the tiles blown off.

A part of the Coal Shed down, and remaining great part untiled.

Coal Jetties slightly damaged.

List of damages sustained at the Kidderpore Government Dock-yard Builder and Surveyor's Department, by the Hurricane of the 5th October 1864.

Captain Reddie's Quarter.—Part of the verandah knocked down, venetians and windows carried away, out-houses, &c., are damaged.

Two Blacksmiths' Shops and Pitch-houses entirely pulled down.—To be renewed.

Dock Pumping-engine.—House damaged and chimney entirely down.

Wooden roof at the end of the Blacksmiths' shop.—To be renewed.

Store Godowns.—Sky-lights are all blown away, and several other defects to be made good.

Dock Divers Shed.—To be re-tiled and repaired.

Mould Loft (tiled).—To be re-tiled and wood-work examined.

Yard Kiln House.—House damaged and chimney fallen down.

One Saw Pitt (thatched).—Half blown down.

One Saw Pitt (tiled).—To be overhauled.

One Boat Shed (tiled).—To be overhauled.

One Boat Shed (thatched).—To be renewed with wood-work.

Two Joiner's Sheds.—To be all renewed with wood-works, &c. Tiled roof to be substituted in lieu of goleputta in case of fire.

Builder and Surveyor's Dwelling-house.—The chopper on the top is all down, and the building is damaged, and some of the jilmilies are blown away.

Builder and Assistant's Quarters.—To be thoroughly examined, repaired, &c, with all necessary sheds and verandahs, and sand plasters.

Stable—To be renewed.

Builder and Surveyor's Office.—Require slight repairs.

Various other Buildings.—To be examined and repaired as found necessary.

Buoy Shed (thatched).—Broken down, require renewing.

KIDDERPORE,
GOVERNMENT DOCK-YARD; }
The 13th October 1864.

J. CRANSTON,
Builder and Surveyor.

The following Statement shows briefly the position of the Shipping in Port up to the time of our latest information. We do not consider it necessary to do more than indicate this in general terms at present. Particulars of damage will be found in our previous and subsequent Reports —

Alexander John Kerr.—With salt on board, capsized at Cossipore.

Ally.—With Coolies on board, lost off Culpee.

Azemia.—Sunk on 5th instant.

Azzopardi.—Still discharging, floated, but grounded again in a worse position. Now touching the bank.

Asteroid.—Still high and dry at Cossipore, much strained, and almost a wreck.

Anne Royden.—Still ashore at Ghosery and discharging fast; may come off these springs.

Aladdin.—Still on top of the Railway Pier, much hogged. Is discharging, and may come off these springs.

Anne de Bretagne—Afloat, but a wreck.

Admiral Casey—Still on shore below the Botanical Gardens.

Alphonse et Nelie.—Float off Baug Bazar; badly damaged.

Aaron Brown.—Now afloat and safely moored. Damage all above water.

Agabaker.—Now afloat.

Annot Lyle.—Still ashore at Seebpore; may come off these springs.

Ally Akber Shah.—Afloat off Clive Street Ghaut, but has sustained great injury.

Alarice.—Afloat. Considerably damaged.

Astronomer.—Afloat. Damage chiefly in rigging and bulwarks.

Agra—Still ashore and discharging, may come off on these springs, but is considerably damaged.

Amun Shah.—Now afloat, we understand. Little or no exertion was used to extricate this vessel from her previous perilous position.

Bentinck, Hospital Steamer.—Lost near Diamond Harbour, but no life sacrificed.

Botanist—Still aground in a bad position; may come off on these springs.

Beaumaris Castle—Safely moored and making no water.

Baron Renfrew.—Totally lost near Diamond Harbour. All lives saved.

Balton Abbey.—Now afloat; is seriously damaged above gunwale.

Bengollyon.—Still ashore, but likely to get off on these springs.

Broughton Hall.—Now afloat, but chafed and damaged considerably.

Cimandef.—Lost foremast, and was badly injured before the Cyclone.

Carobel.—Now afloat, but considerably damaged.

Calumet.—Afloat; has lost mast and spars.

Continental.—Now afloat, but will have to dock Jettisoned a considerable quantity of cargo.

Clytemnestra.—Afloat, but much damaged.

Collingwood.—Afloat; damage very considerable; will have to dock

Childwall Abbey.—Safely moored; can be repaired without docking.

Camperdown.—Safely moored; damage not serious.

Cheshire—Now afloat and making no water. Considerably damaged.

C. N.—Now afloat. Has sustained much injury, and will have to dock.

Ceylon.—Damage considerable, and will have to dock.

Carribean.—Now afloat, but badly hogged

City of Paris—Still high and dry at Cossipore. Discharging cargo and will likely get off on these springs.

City of Lahore.—Has sustained injury and is discharging. Still on shore, but may get off on these springs.

Celenie—We learn was not in dock, and did not capsize. Has sustained considerable damage, and is a good deal strained.

Dirioo.—Still ashore on her beam ends. After-part of keel damaged.

Eastern Belle.—On shore at Cossipore. Very much chafed; gripe gone.

Emeralda.—Still on shore, but likely to get off on these springs. Considerably damaged.

Earl of Clare.—Still on shore, but may get off soon if the ballast is discharged.

Foranhall.—Has left port in safety.

French Empire.—Is in safety; sustained considerable damage in her upper works.

Faizrobany.—Still on shore. Bilged and almost a wreck.

Futty Allum.—On shore at Ghosery; several feet of water in her hold.

Futty Shah Allum.—On shore at Cossipore; may come off.

Sesostri.—On shore at Cossipore, and almost a wreck.

Great Tasmania.—Still aground, and all but a wreck.

Genii.—Afloat; a good deal damaged.

Georgiana.—Afloat; considerably damaged both in hull and rigging.

Gustave et Louis.—Now afloat; lost her rudder.

Govindpore.—Laden for Mauritius; sunk off Calcutta.

Glenroy.—Still on shore; doubtful whether she will get off.

Hanover.—Still on shore in a precarious position; has discharged a large portion of her cargo.

Hannibal.—Now afloat.

Hindustan.—Still on shore and discharging; may get off.

Harry Warren.—Afloat and may be repaired without going into dock.

Hampden.—Now afloat; not much injured.

Indian.—Still on shore; somewhat damaged.

John Ohism.—Now afloat; damage principally above water.

King Arthur.—Still on shore; very much damaged and beginning to break up. Has discharged most of her cargo.

Konyon.—Still on shore and discharging; may be got off.

Krishna.—Now afloat; masts and upper works gone, but hull not much injured.

Kurim Shah.—Cannot ascertain that there is any such ship in Port.

Lew Chew.—Laden for Colombo; sunk off town.

Lady Palmerston.—Still ashore and considerably damaged; may come off on these springs.

Leonide.—Afloat and reported perfectly tight.

Latona.—Still on shore and considerably damaged; may be got off on these springs.

Lady Rawlinson.—Still on shore; will probably be got off without serious injury.

Lincolnshire.—Afloat; masts and rigging much damaged, and will have to dock.

Lady Franklin.—Sunk off town; crew saved, we believe.

Manilla.—Afloat, but has sustained considerable damage; will have to dock.

Metis.—Remains on shore jammed up with other ships; will probably be got off without serious injury.

Monmouthshire.—Afloat, but much damaged in her upper works.

Mirzapore.—Still on shore; will probably be got off.

Mooresfort.—Now afloat; hull not damaged.

Medusa.—Still on shore, slightly damaged; will probably come off on these springs.

Macduff.—Afloat, but badly hogged on the port-side.

Morayshire.—Still on shore; considerably damaged.

Merrie England.—Afloat, but much strained.

Mahratta.—Safe, but now reported to be considerably damaged.

Martaban.—Arrived off town dismasted.

Newcastle.—Still on shore, but has discharged a large quantity of cargo, and may come off.

Nouvelle Ascension.—Now afloat, but has sustained considerable damage; may be repaired afloat.

Nimrod.—Now afloat; very much damaged.

Oamta.—Now safely moored; damage comparatively small.

Pride of Canada.—Still on shore in a critical position, but making no water; may come off on these springs.

Prince Royal.—Now afloat; sustained a good deal of injury.

Queen of the Age.—Still on shore and a good deal damaged; may come off.

Richard Busteed.—Still on shore, but may come off on these springs.

Romania.—Still on shore; discharging, and has not sustained much damage

Red Rose.—Now afloat, but very much damaged.

Royal Alexandra.—Afloat at Garden Reach.

Steamer *Mauritius*.—Still on shore; may come off with the aid of powerful steam on these springs.

Steamer *Thunder*.—Still on the top of a wreck, great endeavors being made to save her.

Steamer *Sydney*.—Now afloat apparently; only slightly damaged

Steamer *Nemesis* (P. and O. Co.'s).—Re-fitted, and is intended to take next mail.

Steamer *Bengal* (P. and O. Co.'s).—Still on shore; believed to be uninjured.

Steamer *Nada*.—Still on shore; will probably get off on these springs.

Steamer *Punjaub*.—Still on shore ; shows no sign of straining.

Steamer *Madras*.—Afloat, but considerably damaged.

Steamer *Persia*.—Inward-bound from Rangoon, &c., reported to have forwarded on the Eastern Reef, with about forty passengers, by two calasies on board the *Golden Horn*, which ship was spoken by the Tug Steamer *Lady Elgin* about the Sandheads.

Steamer *Arratoon Aparar*.—Totally dismasted, and all her deck works damaged ; in safety and is being repaired.

Steamer *Moulmein*.—Afloat and very much injured in upper works.

Steamer *Nubia* (P. and O. Co.'s).—Carries the mail.

Steamer *Orissa*.—Has sailed with the Madras Coast Mails.

Sir Jamsetjee Family —Still on shore in a very dangerous position much damaged, and making a great deal of water.

Sir William Eyre.—Still on shore ; much hogged and bilged.

Southern Cross.—Still on shore ; doubtful whether she will get off.

Sarah and Emma —Being repaired afloat.

Sophia Joakim.—Still on shore in a dangerous position and much injured, but may come off.

Sir John Lawrence (1,019 tons).—Afloat ; lower masts gone and otherwise much injured.

Sir John Lawrence (699 tons).—Afloat, but much damaged

Sultana —Safe in dock.

Steamer *Philbert*.—Still on shore in a bad position, and shows signs of straining.

Singapore (French).—Sunk within the Port.

Southampton.—Almost a wreck.

Simla.—Still on shore, but will likely come off on these springs.

Solway.—Still on the sands ; almost a wreck.

Speedy —Now afloat ; very badly damaged.

Salsette.—Afloat ; must dock.

Southern Belle —Still on shore, but may get off on these springs.

Sea Horse.—Considerably damaged, but may be repaired afloat.

Tinto.—In dock ; has been recovered, and is not much damaged.

Techermaya.—Still on shore ; a good deal damaged.

Talavera —Afloat, may be repaired without docking.

Thames (Country Ship).—On shore at Seebpore : little strained.

Thalatta.—Afloat, considerably damaged, and will probably have to dock.

Tuljai —Still on shore ; much damaged, but making no water, and may come off.

Tartar.—Still on shore in a very dangerous position, and show signs of straining.

Thorndean.—Can be repaired afloat.

Taragon.—Now afloat ; badly strained.

Ville de St. Dennes —Bound to Mauritius ; sunk off Calcutta.

Victoria Bridge.—Still on shore with little chance of being got off. Has jettisoned a good deal of salt.

Vespasian.—Bound for Colombo, wreck off Calcutta.

Western Empire.—Now afloat, but a good deal damaged, and will have to dock.

Ville de St. Pierre.—Now afloat.

William Fairbairn.—Considerably damaged, but can be repaired afloat.

Winchester —Now afloat and not at all strained.

Waterloo.—Afloat, but has sustained great damage.

Western Star.—Now afloat ; much injured.

Wide Awake.—Afloat, but badly damaged.

TUG STEAMERS.

Alligator.—On shore at Culpee, but may possibly be got off.

Banshee.—Lost.

Dwarkanauth.—Lost.

Fire Queen.—Sunk.

Forbes.—Afloat, but very much injured.

Interloper.—Afloat, but very much injured.

Hercules.—Sustained considerable damage.

Linnet.—Sunk.

Mary Stuart.—Now afloat.

Phoenix.—Sunk.

Pilot —Still on shore ; may come off.

Satellite.—Sunk.

Union.—On shore at Seebpore ; very much damaged.

The other tugs in the river, so far as we have ascertained, safe.

The B. I. S. N. Co.'s Steamer *Burmah*, which left this on the 1st instant for Akyab, Rangoon, &c., is reported to have left Akyab for Rangoon on the 4th idem, and is believed to be safe.

Regarding the Ship *Colombo*, bound for Hull, great apprehensions are entertained, it being supposed that she must have encountered the fury of the Cyclone at the Sandheads, and no news of her having since reached town.

The *Clarence*, *Conflict*, and *Sydenham*, from England, have arrived safely. The *Clarence* spoke the *Nile*, also from England, safe after the Cyclone.

Shah Allum, with pilgrims on board, was spoken going to False Point for water. Pilot on board.

Pilot Brig *Chinsurah* in position after the gale.

Pilot Brig *Foam*, reported from Ganjam dismasted, will probably be towed up by the B. I. S. N. Co.'s Steamer *Penang*.

Comet and *Saugor*, Light Vessels, in position.

Star, Light Vessel, has been towed up to town.

Of the *Hope*, Pilot Brig, no intelligence yet.

Megna, afloat.

Tug Steamer *Lady Elgin* has returned from the Sandheads, and reports having seen a great deal of drift stuff, also that she picked up the main topmast head of a large ship (painted white) in Balasore Roads.

The other ships in Port at the time of the Cyclone, it will be understood, are in safety, or little injured. Of a very few, and these chiefly Country Ships, it is possible that we may not yet have ascertained particulars.

CALCUTTA,	}	GLADSTONE, WYLLIE & Co.,
<i>The 15th October 1864.</i>		<i>Agents to Lloyds.</i>

From B. L. WEEKS, Esq., Commander of the Steamer *Lady Elgin*, to
MESSRS. GLADSTONE, WYLLIE, AND Co.,—(dated 14th October 1864.)

After the devastating hurricane of the 5th instant, and having placed, under your orders, my Steamer *Lady Elgin* for the general good, I beg to report the result of my mission to the Sandheads. I left Calcutta at 4-30 P. M. on the 7th, and stopped for provisions off Kidderpore till day-light on the 8th, after receiving on board several Pilots, Mr. Gernon, Branch Pilot, being in charge, under directions from Captain Howe, at your request. At 5 A. M. I steamed down the Hooghly; at 6 A. M., by orders, I stopped at Garden Reach, and took on board Captains Eales and Burbank, after which I made the best of my way to sea, passing, on the river side, innumerable dead bodies and carcasses of animals, also a great number of vessels on shore and some sunk, but, excepting a few coolies here and there, nothing living on the shore, the whole copse being a dismal scene of devastation.

At 1 P. M. I landed Captains Eales and Burbank in one of my own boats at Diamond Harbour; the gale did immense damage here, the Hospital Ship being high and dry not far from the Custom House, which latter seemed to be entirely gutted. A vessel, supposed to be the *Baron Renfrew*, was stranded in a creek near there; the flag staffs there, and generally down the river side, were blown down, and the buoys were nearly all out of position. In passing Saugor Island saw what was supposed to be a Light Vessel, but she was among the bushes, and as I wished to go to sea at once to ascertain the state and position of the Pilot Brigs, Light Ships, and other vessels requiring assistance, I did not deem it necessary to delay the steamer to look after her, she being so far safe, (as no object could be seen on our return, it was probably the bodies of dead coolies and others drift,) I therefore proceeded on, and not a Light Vessel was to be seen, and very few buoys in position. At 8 P. M. I anchored in $9\frac{1}{2}$ fathoms in the Eastern Channel near the Ship *Golden Horn*, sent my Mate, Mr. Gwyer, on board for information. Mr. Marriott, Pilot, in charge, stated that he had towed the outer Light Vessel in position with the Steamer *Orissa* a few hours previous from the Western Channel, also that the *Golden Horn* had picked up two Lascars on a spar, who stated they had been on it for two days; they were part of the crew of the *Persia*, which they reported had turned over two days previous in running in for the Light Vessel in the Eastern Channel. At day-light on the 10th weighed and steamed to sea, steering westward. At 8-30 A. M. put Mr. Pilot Hyndman on board the Troop Ship *Sydenham*, and at 9 A. M. put Mr. Froisbey on board the Troop Ship *Conflict*. During the day lead was kept going, and a man at the mast-head looking out. At 1-30 P. M. saw the Nilghur Hills bearing west by north; various courses steered during the day; passed some wreck and a great number of dead cattle floating about, producing a great stench as we steamed away among them; picked up part of a mast-head painted white, apparently belonging to a large ship; swept the coast and horizon with glasses, nothing visible; course throughout the night S. S. E. under easy steam, sounding 12, 15, and 18 fathoms.

October 11th, at day-light, sighted a large ship steering northerly. At 9 A. M. put Mr. Vardy on board the Ship *Shaw Allum*; soundings 25 fathoms. This ship reported not having had any bad weather. At noon sighted a vessel ahead, which proved to be Pilot Brig *Chmsurah*. At 5 A. M. spoke her, and, with Mr. Branch Pilot Gernon, went on board. Captain Smart informed us that the Lower Gaspar Light Vessel *Star* was at anchor, bearing E. N. E. Steered for her at 6-30 P. M., spoke her, her foremast gone, making water, and otherwise damaged. Her

Captain came on board, and after stating the condition of the vessel, requested a survey. I then anchored near her in $12\frac{1}{2}$ fathoms to wait for day-light.

October 12th, at 5 A. M., and with Mr. Gernon and Mr. Master Pilot Philips, went on board to hold a survey, which being done, left Mr. Pilot Philips in charge, and took her in tow and proceeded towards her station, as we considered her safe for a few days. On arriving there found the *Saugor*, which had been sent from town with the Steam Tug *Bull Dog* in attendance to put her in position. Mr. Gernon and other Pilots on board thought it advisable, in her leaky state, *not* to place *Star* in the Upper Gaspar Light's position. I determined to tow her to town abreast of Saugor; saw a boat coming from shore; slowed the engines; but as the boat made for the Tug *John Bull*, who was lying there, continued our course and anchored that evening at the bottom of Bedford's Channel. At day-light proceeded and anchored at Diamond Harbour, being obliged to return there from Hooghly Light for safe anchorage for the night. I sent Mr. Gwyer, my Mate, on shore that evening to ascertain the state of the people on board the *Bentinck* and inhabitants in general. On his return he reported the inhabitants were in a starving condition, whereupon I told him to collect all the rice we could spare and take it on shore early the next morning, which was done and delivered in charge of Captain Lewis, of the *Bentinck*. All who went on shore described the stench from the dead cattle as almost intolerable. Again, taking Light Ship *Star* in tow proceeded to town on the morning of the 14th, nothing particular occurred during the passage up the river, and at 3-30 P. M. arrived off the Cooly Bazar. In conclusion, I beg to report the whole of the vessels (about fourteen in number) that we saw below the outer Light Ship appeared to have entirely escaped the gale, not one showing any sign of distress or injury. I have to acknowledge the services of Mr. Gernon, who assisted me in every way to carry out the objects of the expedition.

From T. GERNON, Esq., Acting Branch Pilot, to Offg. Master Attendant,
—(dated 14th October 1864.)

According to instructions received from you, I proceeded on board the Steamer *Lady Elgin* at 2 P. M. on the 8th instant, and steamed down to Prinsep's Ghaut. Not having received provisions on board waited there for them. At 5-30 A. M., on the 9th, proceeded down, passed Saugor at 4-15 P. M., and found both Gaspar Light Ships gone. 7-20 P. M. sighted the Eastern Channel Light in position, spoke the Ship *Golden*

Horn, Mr. Acting Mate Pilot Merriot in charge, who informed me that the Eastern Channel Light Vessel had been towed to her station from the Western Reef by the Steam Ship *Oriessa*, also that the Light Vessel *Comet* had informed Mr. Merriot that the Pilot Vessel *Chinsurah* had stood to sea on the 4th. The last seen of the Pilot Vessel *Foam* was on the 5th, when she was standing to the W. N. W. under a fore-topmast stay-sail, anchored in $9\frac{1}{2}$ fathoms of water. At 5 A. M., on the 10th, weighed, steered, W. S. W., under easy steam; weather thick; 7 A. M., steering west 7-15, sighted two vessels to the W. S. W., stood towards them, proved to be the Troop Ships *Sydenham* and *Conflict*; put Pilots on board the same; could give us no information, as they had been to the southward of the hurricane. After supplying these vessels steered west, noon; steering W. N. W., 1 P. M., in 15 fathoms of water; steered N. W. 1-30 P. M., sighted the North Peak of the Nilghur Hills; W. by N. 2 P. M., sighted a spar, lowered the boat, and picked up what appears to be the lower mast-head of a large vessel, painted white, and carried away below catharpins. Saw no other spars in Balasore Roads, but passed immense quantities of dead cattle. 3 P. M. in 12 fathoms of water; 4 P. M. steered south; swept the roads with our glasses; nothing visible; 6 P. M. steering S. S. E. Vessel under easy steam during the night. 8 P. M. set the watch; 11 P. M. in 12 fathoms of water; 11-30 in 15 fathoms, and at midnight at 18 fathoms.

Palmyras sounding.

At 3-40 A. M., on the 11th, in 50 fathoms of water, no ground; 6 A. M. steered north; 9 A. M. sighted three vessels to the N N. E., stood for and picked up the nearest one, proved to be the Arab Ship *Shaw Allum*; put Mr. Mate Pilot Vardy on board, being at the time in 25 fathoms of water. The *Shaw Allum* had experienced no bad weather. Observing the two other vessels were fully rigged, and apparently in want of no assistance, proceeded on our course north. Noon on the Pilots' Ridge in 21 fathoms; sighted a vessel ahead, proved to be the *Chinsurah* Pilot Vessel. At 5 P. M., with Captain Weeks, boarded Mr. T. Smart and delivered to him my written instructions; he informed me that the vessel then in sight to the eastward was the Lower Gaspar Floating Light Vessel *Star*, and directed me to proceed to her assistance, when, should I find her in a fit state to perform her duty, I was to re-place her in her position. Steamed towards the *Star*; 6-30 P. M. spoke her, found she had lost her foremast; the Officer in charge came on board and stated that she made a large quantity of water; port hawse pipe gone, and only five days' provisions on board. Under these circumstances, I deemed it

prudent to wait for day-light to make a thorough survey of the vessel. 7 P. M anchored in $12\frac{1}{2}$ fathoms of water in the South Channel. At 6 A. M., on the 12th, went on board the *Star* with Captain Weeks and Mr. Acting Master Pilot Phillips to survey the vessel. In our opinion, the *Star*, although not in a fit state to be kept at sea for any length of time, was able to take her station until relieved from town, that is should we have our usual N. E. Monsoon weather. Left Mr. Phillips in charge of the *Star*, he being the Senior, to assist me in placing her in her position; took the *Star* in tow and proceeded in; steering from E. N. E. to N. E., crossed the Eastern Sea Reef between the positions of the Upper and Lower Reef Buoys. Noon, sighted a Light Vessel to the northward, made her out to be the *Saugor*. On closing with her found that she was a long way to the southward of the Lower Gaspar Light Station. 1-15 P. M. *Saugor's* boat came alongside with Mr. Gibson and Mr. Acting Mate Pilot Broadhead. They informed me that Mr. Master Pilot Fosbery had told them that the Eastern Channel Light Vessel was in her position, and that they had better take up the Lower Gaspar Light Station, this I desired them to do, and shortly after observed the Steamer *Bull Dog* take her in tow preparatory to placing her in the position of the Lower Gaspar Light. We at once proceeded in, Captain Weeks, Mr. Mate Pilot Fletcher, and myself thinking, as the Lower Gaspar Light Vessel was, or shortly would be, in position, that it would expedite the public service by at once bringing the *Star* to town.

During the afternoon the Officers noted in the margin went on shore, and on their return reported to me that the men on shore stated they were starving. Captain Weeks kindly offered to send on shore all the rice he could spare from his steamer. This morning, the 14th, between 4 and 5 A. M., I sent Mr. Gwyer on board the *Star* to see if that vessel could likewise spare any rice. Mr. Gwyer returned with two bags. With these and two more bags from the *Lady Elgin*, I proceeded on shore, where, finding Captain Lewis on board the *Bentinck*, I made over the rice to him for distribution.

In conclusion I have only to state that I have received every assistance from a Captain Weeks in forwarding the public service, as also from the Officers on board whose names I have noted in the margin.

From T. SMART, Esq., Branch Pilot, Senior Officer, Cruizing Station, to
 Depy. Master Attendant in charge,—(dated 11th October 1864.)

I have the honor to report that the *Chinsurah*, Pilot Vessel, has been in a most violent hurricane and sustained much damage, but not sufficient to make it necessary for her to come to town before her cruize is out.

At 11-40 A. M., on the 3rd instant, I anchored about 3 miles N. W. of the Eastern Channel Light Vessel. Wind light from N. E. to E. S. E., and weather cloudy. At 2 A. M., on the 4th, weighed to supply two vessels with Pilots. Wind light from the eastward, squally appearance, and a very heavy short sea from the S. W. 6 A. M. took Mr. Beal, Licensed Master Pilot, out of the Ship *Earl Dalhousie*. 6-30 A. M. put Mr. Wall, Licensed Junior Mate, on board the Arab Barque *Inspector*, wind increasing in squalls and very threatening appearance. Stood to the southward under double reefed top-sails and courses. 1 P. M. furled courses and fore top-sail, and put extra lashings on them. 3 P. M. furled main top-sail and put extra lashings on it. Hove to under fore top-mast stay-sail on port tack 4 P. M. Port waist anchor was struck by a sea so heavy that it was washed in on deck, tearing away all the cleats and part of the rail, battened down the hatches fore and aft. 7-30 P. M. fore top-mast stay-sail split to pieces. Set reefed main stay-sail, 9-30 P. M. that split to pieces. 11 P. M. main sail got adrift and split to pieces. About the same time the quarter boat was pressed so much into the sea that it went to pieces, leaving only the stern post. About midnight the main top-sail got adrift, and in a few minutes had blown to pieces to the second reef. For some three or four hours during the night the vessel was pressed so far down on her starboard side by the wind that the water was up to the hatches and skylights; indeed the vessel was on her broadside. From 10 P. M. to about 1 A. M. next morning, it blew a furious hurricane from E. N. E., N. E., N., N. W., round to West, when it commenced to moderate at day-light; on the 5th blowing hard from W. S. W. Found the whole of the fowl coops on the starboard side had been torn from their lashings and dashed to pieces, and the greater part washed overboard. The brickwork of the galley washed out. Lead on deck under fore-castle, as also that abaft; windlass had been ripped up and driven some distance away. Gun Port in starboard waist was torn from its massive hinges. Some of my sheep had been washed through the bars of their pen overboard, and also the greater part of my stock. On the 5th we passed masts and yards of a vessel; on the 6th passed two parcels of masts and yards and also deck-planks; at 7 P. M. on the 6th anchored half-way up False Buoy.

On the 7th worked to close below Point Palmyras; observed many cattle drifting down.

On the 8th worked to abreast of Point Palmyras and anchored close off the reef; during the day observed a great many cattle drifting out.

On the 9th, at 7 A. M., sighted men on a raft, out boat and sent her manned by the Officers who volunteered to do so, while my crew got the vessel underweigh. At 8-30 boat returned, bringing two men, natives of Coringa. They stated that they left Coringa for Akyab in a Sloop; that when in sight of the land below Chittagong a gale of wind came on, their vessel went to pieces, and they drifted away on a piece of the wreck; that next day they saw much wreck, got some of it, and made a raft. This raft appeared to be a part of the side of some vessel built in Europe, as the timbers were oak and planking pine. They had been five days in the water, and when the Sloop went to pieces, there were twenty-five men on board of her.

October 11th, 1-30 A. M., light S. E. wind; weighed and run up, 1-45, a bright light E. S. E., apparently a steamer. Showed a blue light to attract her to us. At day-light the *Celerity* Steam Vessel, W. by S., standing to the northward. 6 P. M. on tail of western reef, spoke by Steamer *Lady Elgin*, and directed her to a Floating Light about 2 to 3 miles from me apparently in want of assistance.

I also beg most respectfully to state that I am much in want of stock, and cannot accommodate Officers for more than six or eight days. I require at least twenty dozens.

From T. H. JEWETT, Esq, Comdr. of the Steamer *Koladyne*, to Depy. Master Attendant,—(dated the 16th October 1864.)

In compliance with Captain Obbard's letter dated the 9th, requesting me to wait off town till 4 P. M. of that date, and to receive on board any stores which Mr. Ham, the Manager of the Bengal River Steam Company, might put on board before that time, and then to take my departure for the Soonderbuns, and make a general search for any people who may have been thrown on shore of the sea-face.

I have the honor to report, for your information, that I left Calcutta at the time stated by Captain Obbard and proceeded towards Soonderbuns; reached the "progress" on the evening of the 10th; landed all the stores which I received in Calcutta at day-light of the 11th; weighed

and shaped my course to the eastward out through the "Seerfullah" up into the "Mutlah," crossed through the "Cuttallee" and thence stood down to the southward, keeping a strict search as we went along with a good look-out at the mast-head; entered the Bangadoony Creek and stood to the eastward; down the Bangadoony River down to the southward along the western side of Bangadoomy Island out to sea-ward, but finding night was overtaking me, ran back and anchored under shelter. At day-light of the 12th weighed and proceeded out to sea within half a mile of the Refuge House, but could see no signs of a living soul, wreck, spar, boat of any kind; all along the sea-face appeared as though there had been no gale; stood in again to the northward overtaken with heavy fog, obliged to anchor; as soon as the fog had cleared away, weighed and stood to the westward; crossed out into the Mutlah, still having a good look-out at the mast-head, then crossed into the Thakooran; stood down to the southward for "Bulcherry" Island, and out to the face of the sea, but no signs of any living souls or anything; found the top of the house blown off and Flag Staff down, and from Bulcherry stood up to the northward, crossed the "Thakooran," and anchored for the night. At day-light of the 13th weighed and entered a river name unknown, and stood down to the face of the sea; no traces of anything to be seen here, stood back to the northward down the "Calchera" out into the "Subtermooke," down to the southward out to sea, within three-quarters of a mile of the "Refuge House," which was standing in good condition, but no signs of wreck or anything which would lead me to believe that any one had been washed on shore; stood in round to the northward of "Lothian" Island, and anchored on the eastern shore for the night. At day-light of the 14th weighed and proceeded out to sea; after a diligent search discovered nothing; stood back to the northward; crossed out of the Dooagra into Channel Creek and down to the southward to seaward, and there I saw nothing which would lead me to believe that any men had been thrown on shore during the Cyclone; the house and Flag Staff by all appearances were not injured. In steaming through "Dooagra" down Channel Creek, I saw a great many dead bodies floating about; after completing this search from "Bangadoony" to eastward, and from "Channel Creek" to the westward, I then steered for the Goosery, and took on board 350 chests of Opium and passengers' luggage. At day-light of the 15th weighed and proceeded towards Calcutta; while running up "Culpee" saw a Brig to the westward with the main-mast gone, signals flying, "will you take me in tow." I stood over and found it was the Buoy Vessel *Megna*, took her in tow, and towed her to "Budge-Budge," where I

cast her off; the Officer in charge informed me he had only one anchor and cable, and expressed a wish to anchor there; reached Calcutta at 7 P. M. While running up the "Hooghly" saw a great number of dead bodies floating about up as high as Diamond Harbour; saw but a few between Diamond Harbour and "Fulta."

From CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal,—(No. 2519 M, dated 19th October 1864.)

With reference to your letter No. 4128, dated the 11th instant, I have the honor to refer to my letters Nos. 2458, 2459, 2463½, 2479, 2499, 2504, dated respectively the 7th, 8th, 10th, 12th, 13th, 17th instant. marginally noted, in which I have from time to time submitted Reports on the hurricane of the 5th instant, and on the disasters and occurrences connected with it, these Reports forming a narrative of the most important occurrences up to the present moment. I shall continue to report further from day to day in the same manner or in any other form that His Honor may direct.

For ready reference, I beg to submit in recapitulation a Statement of the measures adopted by the Officers of the Marine Department to save life and property and mitigate the effects of the storm.

P. S.—I am happy to add that by a telegram just received from Akyab, the *Proserpine* is safe there, although she had a narrow escape.

Report of relief given by Mr. Thompson from the Stamp Boat.

Monday, 10th October.—Supplied ten persons at Moyapore with five days' provisions.

Tuesday.—Left with the Baboo at Hooghly Point Telegraph Station; sufficient rice, &c., for sixteen men for five days distributed; one bag containing 200lbs rice to the Telegraph and Dawk boatmen at Diamond Harbour.

Wednesday.—Supplied 250 persons with one seer of rice each, dhol salt, &c., in proportion, at Rangafullah.

Thursday.—Supplied the remainder of the inhabitants at Mud Point with rice, dhol, &c., for five days.

Friday.—Relieved some of the worst cases at Kedgerree with a few days' provisions.

Saturday.—Left with the Superintendent of Cowcolly Lighthouse; 18 bags of rice to be distributed to the villagers when necessary.

Sunday.—Proceeded up to the Flat in Subtermooky.

MEMORANDUM.

At Mud Point the destitution was apparently worse than at any other place; the whole population turning out of their hovels and falling upon their knees upon the arrival of the boat, blessing the Great God of all men for unexpected succour. At Rangafullah also the people were reduced to absolute penury, but the immediate want did not appear to be so urgent as at Mud Point.

Statement of measures adopted for rendering assistance to damaged vessels and sufferers from the late gale.

On the evening of the 5th October as soon as the abatement of the gale rendered communication possible, the Commanders of the *Celerity* and *Koladyne* (which were the only steam vessels at the disposal of Government) were directed to get their steam up and await orders, and on the following morning those vessels left town, the *Celerity* to render aid (to the *Bentinck* if required) to distressed vessels in the river or at the Sandheads, and the *Koladyne* to proceed in chase of the *Sir William Peel*, which vessel with her flats having the 12th Native Infantry on board, it was feared, might have met with accident in the Soonderbuns.

On the 7th the people from Moyapore were supplied with money to purchase rice and carry it down, and hold out until boats could be sent with more.

The *Celerity* returned to town on the 8th (the *Bentinck's* ship-wrecked people having been brought up on the *Defiance* which was passing up), having expended all her provisions by the time she had reached Saugor in the relief of urgent distress on the banks of the river.

The *Koladyne* also returned on the 8th, having ascertained the safety of the *Sir William Peel*, the grounding of the *Progress* to whose people relief was afforded, and the stranding of a flat with 350 chests of Opium.

The Steamer *Lady Elgin* was despatched on the morning of the 8th October with Pilots to second the *Celerity* in cruizing at the Sandheads and over to Balasore roads in search of Pilot and Light Vessels, of wrecked ships, or vessels in distress.

On the 8th instant the people of the *Bentinck* were supplied with provisions.

On the 9th the *Celerity* proceeded again with provisions and water to the Sandheads and False Point, and having returned on the evening of the 14th with full information of the condition of the vessels at the Sandheads,

* Since this was written, the *Celerity* has returned after an extended search, but I regret to say has failed in finding either *Krishna* or *Hope*, Light Ships.

I have despatched the *Swiftsure* to make another search from Hidgelee to Piplee Sand if by any chance the vessels may have been washed ashore in that direction since the *Alexandra* Tug passed up there.

she was again despatched on the 15th with provisions and water to make a more extended search for distressed people and vessels. This vessel has not yet returned.*

On the 9th instant two row boats were despatched to Kedgerree with provisions and water for the *Salween*, that vessel's stock having become exhausted in relieving the wants of the distress at that Station. The *Salween* fed 100 men for three days, and 30 men daily up to date.

On the same date the *Koladyne* was again despatched with provisions and water to the Soonderbuns to visit the houses of refuge, and search for people or wrecks in that direction. She returned on the 15th instant, her Commander having thoroughly fulfilled the mission upon which he was sent, and satisfied himself that no vessel had on this occasion been carried ashore there.

On the same date, 9th, the *Swiftsure* was despatched, full of provisions and water, in charge of an Officer selected for the purpose, to visit all the River Stations, and relieve immediate want wherever he might find it. He visited the Stations of Atchepore, Moyapore Magazine, Hooghly Point, Diamond Harbour, Chittamara, Mud Point, Kedgerree, and Cowcolly, and divided all that he had among them. He was directed not to proceed to Saugor Lighthouse, as it had been ascertained by signal that there was no immediate want at that Station. This boat has just returned and a statement of her proceedings is annexed.

On the 14th a Heave-up boat was sent down to the *Megna* ashore at Bellary with provisions.

On the same date a row boat was despatched to Middleton Point, Saugor, with provisions.

And on this day, 17th, one of the Government coal boats left town with a large quantity of rice to Diamond Harbour, the charitable gift of two Rajahs.

On the 15th instant more provisions were sent in a jolly boat to Moyapore.

In the Port the whole of the Harbour Masters have been busily employed from day-light in the morning after the gale in rendering assistance to the stranded vessels. All the Officers of the Pilot Service in town volunteered their services to assist, and have been working as Harbour Masters in getting ships off and mooring them in safety. One hundred and one ships have been got off out of 145 grounded.

The Assistants to the Master Attendant have been aiding in every possible manner. Captain Tapley, after working some days at the stranded ships, was deputed to the Dock-yard to superintend the work of re-masting and re-fitting the Government Pilot and Light Vessels and getting them ready for sea, and in endeavoring to get the *Mutlah* Pilot Brig afloat. Captain Boon was despatched on the *Celerity* to False Point to render aid and give a reliable report upon the Light-house, and both he and Captain Baker have been usefully employed in assisting ships and otherwise as required.

The portion of the Office that could be got together has been fully occupied throughout the holidays, and Mr. Joakim, the Registrar, and Mr. Walter DeMello have been specially active and attentive.

As was to be expected at such a time, the demands upon the Harbour Master have been incessant, and he has employed the means at his disposal to the best of his ability, begrudging no amount of personal labor and exertion.

As regards the Government vessels and the arrangements for procuring spars and other stores, sending food down to the Stations in distress, and supplying the wants and demands of the Department in every shape, the Officiating Superintendent of the Dock-yard, Mr. Obbard, has been most active and indefatigable, and has shown himself to be the same able and intelligent Officer in his new sphere of duty that he was in his profession of river surveying, and Captain White, the Naval Store-keeper, has been equally indefatigable.

The various Officers in the Dock-yard have also been most active, and Mr. Cranston, the Builder, has been particularly energetic and zealous in making a number of new lower masts and other spars for the dismasted vessels, repairing vessels, and docking several, particularly the *Arracan*, which we have fortunately been able to put in our own Dock

From J. GEOGHEGAN, Esq., Under Secy. to Govt. of Bengal, to
Depy. Master Attendant in charge,--(No. 4367, dated 21st Octo-
ber 1864)

I am directed to acknowledge the receipt of your letters noted
No. 2504, dated 17th October last on the margin, reporting on the disas-
" 2519, " 19th " ters caused by the Cyclone of the 5th
instant, and the measures taken by you in consequence, and in reply
to state that the Lieutenant Governor approves entirely of all your
proceedings in the matter.

2. His Honor notices with high approbation the prompt and energetic manner in which you and the other Officers of the Department have acted immediately after the Cyclone in rendering assistance to the vessels in distress, and in using your utmost endeavours to save life and property and prevent their further destruction.

3. His Honor particularly commends the alacrity and energy evinced on the occasion by the Harbour Masters in the Port, the Officers of the Pilot Service who volunteered their services, and the Assistants to the Master Attendant; and also the activity and attention shown by Mr. Joakim, the Registrar of your Office, and by Mr. DeMello.

4. His Honor has also noticed with especial satisfaction the zeal and activity with which Mr. Obbard, the Officiating Superintendent of the Kidderpore Dock-yard, and Mr. Cranston, the Builder, have endeavoured to meet all the requirements, of the emergency, and is gratified to observe that the other Officers of the Dock-yard have likewise been most active throughout the crisis.

5. His Honor now desires that every exertion be made to place the Port Establishments in a state of efficiency as soon as possible.

6. I am also desired to request that you will report for His Honor's information what you would propose to do in regard to the moorings which have been lost, and whether the opportunity should not be taken to re-arrange the moorings in the Port and to substitute moorings of a stronger and better description for those hitherto in use.

From J GREGG, Esq., Under Secy. to Govt. of Bengal, to Under Secy. to Govt. of India, Home Dept.,—(No. 4368, dated 21st October 1864.)

I am directed to submit herewith, for the purpose of being laid before His Excellency the Governor General in Council, a copy of the accompanying letters* from the Deputy Master Attendant in charge, relative to the disasters resulting from the Cyclone of the 5th instant, and the measures which were taken on the occasion to render assistance to the vessels in distress, and to save life and property and prevent their further destruction.

* No. 2504, dated 17th October last, and enclosures.

No. 2519, dated 19th October last, and enclosures.

2. A copy of the reply communicated to the Deputy Master Attendant in charge, showing what steps have been taken for placing the Port Establishments in a state of efficiency and for supplying the other requirements of the Port, is also submitted herewith for His Excellency's information.

From CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal,—(No. 2525, dated 20th October 1864.)

With reference to the latter part of the 3rd paragraph of your letter No. 4141 T of the 11th instant, I have the honor to submit, for the consideration of the Lieutenant Governor, that it may be desirable to appoint a Committee to report upon the moorings of the Port, the cause of ships having been driven from them during the late hurricane, and the best mode of re-laying them with our present appliances of heavy anchors, chains, and posts, pending the consideration ultimately of the question of screw moorings.

2. If His Honor would permit me, I would beg to suggest the President of the Chamber of Commerce as President, Lloyd's Surveyor as one Member, and any other scientific and practical men that His Honor may see fit to elect.

From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to HON'BLE J. N. BULLEN,—(No. 4460, dated 24th October 1864.)

I am directed to inform you that the Lieutenant Governor has been pleased to appoint you to be President of a Committee whereof the gentlemen named on the margin are appointed Members, to consider and report on the questions proposed by the Deputy Master Attendant in the accompanying copy of a letter

Captain A. Fraser, R. N.

„ H. Hyde, R. N.

„ H. Howe.

Mr G. Ross.

No. 2525, dated the 20th instant, and on the adaptability of screw moorings to the circumstances of the Port. It is a question, the Lieutenant Governor thinks, whether, with reference to cost and durability, as well as to the greater safety of the Shipping and to economy of space in the Port, it is not, on the whole, desirable that these moorings should be generally substituted for those heretofore in use, and you are requested to consider what means exist for carrying out such a change, either gradually or at once.

From CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal,—(No. 2561 M, dated 22nd October 1864.)

I have the honor to solicit sanction to a special grant of Rs 4,000 to enable this Department to pay for the extra labour incurred on account of the Cyclone. A full account will be rendered for audit.

I have to suggest that the expenses be debited to the Port Fund under the head of Damages caused by Cyclone.

From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to Master Attendant,—(No. 4523, dated 27th October 1864.)

I am directed to acknowledge the receipt of the Deputy Master Attendant's letter No. 2561 of the 22nd instant, and in reply to state that the Lieutenant Governor is pleased to sanction a special grant of Rs. 4,000 to enable the Marine Department to meet the extra charges incurred on account of the damage done by the Cyclone. The amount will, as proposed, be debited to the Port Fund under the head of Damages caused by Cyclone.

From CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal,—(No. 2527 A, dated 20th October 1864.)

With reference to my letter No. 2525 of this date, recommending the appointment of a Committee to enquire generally into the question of the moorings in this Port, pending the consideration of the introduction of screw moorings, I have the honor to state that I have since had an opportunity of reading a Work on "Sub-Marine Foundations, particu-

Early the Screw Pile Moorings by Alexander Mitchell, M. Inst., C. E.,

Published by Mitchell's Screw
Pile and Mooring Company, 17,
Great George Street, Westminster.

and an account of the Maplin Sand Light-
house by John B. Redman, M. Inst., C. E.,
together with excerpt Minutes of proceed-
ings of the Institution of Civil Engineers, by permission of the Council."

A perusal of this Work, and an inspection of the Plans and Sketches
of the moorings now in use in several of the harbours in England, espe-
cially in Newcastle-upon-Tyne and Sunderland, and in the port of London

The span chain is in use in this
Port

The sinker is a heavy block of
stone or iron laid upon the surface
in the bed of the river, or placed in
an excavation prepared for its recep-
tion not used here, but both of these
continue to be the only moorings in
use at the Royal Dock-yards, prob-
ably on account of the value of the
old stock or material, and to their
not being much exposed.

within the jurisdiction of the Corporation
of the Trinity House, remove all possibility
of doubt on the subject, and must satisfy
all who investigate it as to the immense
security and safety as regards holding
power of the screw pile over the moorings
commonly used, which are the span chain
mooring, and the sinker or mooring block.

At the same time it must be remarked, in justice to the moorings
in this Port, that they have been laid under a better and more system-
atic method than those in use in the Port of London prior to the intro-
duction of the screw pile moorings. A glance at the Sketches Nos.
1 and 2, which accompany this letter, will, I think, clearly prove this.

As proofs of the estimation in which the screw pile moorings are
held in England, the Corporation of Newcastle-upon-Tyne within a few
months of the expiration of the Inventor's privilege, and when the re-
newal of it appeared doubtful, paid for the permission to use the patent
in the Tyne, as applied to moorings alone, the sum of £2,500, and
they have carried the system to a considerable extent with great benefit;
and it is recorded in the pamphlet which is before me, published by
authority, that, on the occasion of a very heavy storm which occurred
when nearly a thousand ships were wind-bound in the river, and the
greatest consternation prevailed, not a single mooring gave away,
although they were all fearfully tried, and not £10 worth of damage
was done, whilst in the neighbouring Port of Sunderland injury was
sustained by the Shipping to the extent of nearly £30,000. Another
proof of the value set upon the screw moorings is, that in 1847 the
Judicial Committee of the Privy Council, before whom an application
was then argued for a renewal of the patent then about to expire,
granted a warrant for a new patent for the period of fourteen years.

The screw pile, as described in the pamphlet, is simply a bar of
iron with a wrought-iron screw point, having at its lower extremity a

broad plate or disc of metal in a spiral or helical form on the principle of the screw, in order that it should enter the ground with facility, thrusting aside obstacles to its descent, without materially disturbing the texture of the strata it passed through, and that it should at the same time offer an extended base either for resisting downward pressure, or an upward strain.

When this broad spiral flange or "Ground Screw" is employed as a mooring to resist an upward strain, its holding power depends upon the area of its disc, the nature of the ground into which it is inserted, and the depth to which it is forced beneath the surface.

The proper area of the screw must in every case be determined by the nature of the ground and the purpose for which required; the largest size yet used has been 4 feet in diameter, and the depths to which they have been inserted at Newcastle vary from 10 to 20 feet.

It is evident then that such a flange or Ground Screw inserted to a depth of 20 feet has immense holding power in the ground. In the words of the pamphlet, the mass of ground thus effected* in the case of the screw mooring is in the form of the frustrum of a cone inverted, that is, with its base at the surface, the breadth of the base being in proportion to the tenacity of the ground; this is pressed on by a cylinder of water equal to its diameter, the axis of which is its depth, and the water again bears the weight of a column of air of the diameter of the cylinder. If, therefore, a cast-iron screw of a given area be forced into the earth to a certain depth, it must afford a firm point of attachment for a buoy chain in every direction, and will oppose a powerful resistance even to a vertical strain, which generally proves fatal to sinker moorings, depending as they do chiefly on their specific gravity.

The following description of the method of mooring vessels in the Port of Newcastle-upon-Tyne is extracted from the proceedings of the Institution quoted:—

"A heavy ground chain, composed of links each 3 feet in length, of round iron $3\frac{1}{2}$ inches in diameter, was stretched along the bed of the river in the deep water, and in the direction of the current, instead of, according to the old system, placing it as a bridle across the stream. To this chain, at given distances, marking the centre of each tier, and the mid-distance of between, were shackled studded link mooring chains of $2\frac{1}{2}$ inch iron, which had been previously laid down with the lower extremity of each

* That is to say, disturbed before the Mooring can be displaced by any direct force.

attached to a screw mooring inserted into the bottom of the river at each spot to depths varying from 10 feet to 20 feet; the depth of water at low water spring tides varied from 15 feet to 24 feet; where rock was met with, it was penetrated by the wrought-iron screw point for about 1 foot or as far as the underside of the table of the screw."

To bring into practical usefulness the lesson now learned, nothing further seems necessary, should Government approve, than that Government should, as immediately as it deems proper, cause communication to be entered into with Mr. Mitchell relative to the adoption of his moorings in this Port, furnishing him with full particulars of our wants and requirements, the nature and extent of the ground to be brought under the operation of his patented method, the number of screw piles, &c., required, and every other kind of information that can possibly be afforded to insure a practical and successful result.

In the mean time the moorings can be relaid with the large reserve means at our disposal; and, on the introduction of the screw moorings, the old stock may be sold off: the cheapness of the new method will, in a few years abundantly repay the cost of introducing it, and save the annual expense of keeping up the present chain moorings.

The system is equally applicable to Lighthouses and to Beacons in substitution of buoys in many parts of the river not liable to change, and I shall make these the subject of a separate communication.

From CAPTAIN A. R. WESTON, P. & O. S. S. *Simla*, to His Honor the Lieut. Govr. of Bengal,—(dated 28th September 1864.)

The magnitude of the trade of Calcutta, and the great increase which must be looked for in it as the resources of British India become developed, render it most imperative that the aids to navigation in approaching and leaving the Port should be of the most perfect kind attainable, and be maintained in the highest possible state of efficiency.

2. Believing that this matter has already engaged the attention of Government, and thinking that you may desire to be informed of the opinion of some who, from the nature of their profession, are practically acquainted with the subject, I venture to lay before you the following remarks, which will, I trust, be found worthy of your consideration.

3. The present system of lighting and buoying the entrances and channels of the Hooghly, though perhaps the best that was available at the time when it was adopted, is quite inadequate to the requirements of

the present day, and has, in principle, been superseded by modern discoveries, presenting the advantages of greater efficiency combined with considerable reduction in expense.

4. The invention of Screw Piles has enabled Lighthouses to be

SCREW PILE LIGHTHOUSES.

Maplin Sand.	Spit Bank.
Fleetwood.	Sandkey-Florida.
Belfast,	Brandywine, Delaware.
Dundalk.	Gun Fleet Sand and others.
Chapman Sand.	

securely placed in situations where it had previously been considered impossible to maintain any other Beacon than a Floating Light Vessel; and as

the success of the new principle has been so fully demonstrated by the Lighthouses already in full work at the several places named in the margin, there appears to be no reason why the present Light Vessels (the Eastern Channel and Lower Gasper) at the entrance of the Hooghly should not be re-placed by Lighthouses on Screw Piles.

5. A very important advantage possessed by structures raised on these Piles is the small surface offered by them to the run of the tide, or the stroke of a wave, whilst they afford facilities for forming so rigid a structure that, as in the case of the Fleetwood and other Lighthouses, scarcely any vibration can be perceived even in the heaviest weather.

6. Looking out at night, and especially during and after bad weather for intricate positions, it is of the utmost importance that mariners should rely with undoubting confidence, not only on the stability of the light, but also on its unvarying position and appearance. All these advantages are possessed by fixed lights, (that is, lights shown from Lighthouses), but in tempestuous weather the Floating Light Ships are nearly obscured by the spray, and their lights have no steadiness, on account of the constant motion, whilst in consequence of their breaking adrift from their moorings hundreds of lives and millions of property have been lost. Nor can they be said to occupy any precise position, shifting as they do with the wind and tide twice the length of the chains by which they ride.

7. By the use of iron the ravages of the Teredo Navalas and other seaworms, so much dreaded for timber structures on almost every coast, may be entirely disregarded, and experience has shown that no apprehension need be entertained of the prejudicial action of salt water upon Screw Piles. Neither the wrought nor the cast iron of the Maplin Sand Lighthouse, which was fixed nearly thirty years ago, being in the slightest degree injured; the Courtown Pier built sixteen years ago being in an equally good state of preservation.

8 The channels of the Hooghly are at present marked by buoys, which, from the nature of their construction, are continually getting out

of order and drifting from their proper positions, becoming thereby sources of doubt and perplexity, and even of danger, in addition to the enormous cost of maintenance.

9. I propose—

(a.) To build a Lighthouse of the first order, Catoptric, revolving at 120 feet above high water level, in lieu of the present Eastern Floating Light Vessel.

(b.) To build a Lighthouse of the second order, Catoptric, fixed at 60 feet above high water level, in lieu of the present Lower Gasper Light Ship.

(c.) To place Screw Pile Beacons in lieu of Buoys to mark the channels in the Hooghly.

10. Having, with the assistance of one of the Senior Pilots, select-

BUOYS.		SHORE BEACONS.
Fultah Sand in	7 fms.	Mooneekolly Point.
Mukraputty in	5 "	Moyapore "
Sangor Anchoring	7 "	Sister Trees "
Light Sangor	7 "	Deep Water mark.
" Ridge in	7 "	Middle Point.
Culpee in	8 "	Mud "

ed six Buoys and a similar number of Beacons (named in the margin) occupying the most important positions as crossing and leading marks, I suggest that these should first be re-

placed by Screw Pile Beacons as an experiment previous to adopting the system throughout.

11. I enclose a Statement showing the comparative cost of the proposed system, as compared with the present, both as regards outlay and annual expenditure.

12. The figures in this Statement require little comment. A very important feature is the enormous saving in the annual expenditure, amounting to £12,944 per annum, by which, in the course of three years, thirty-six weeks, the whole amount of the original outlay would be recovered, while the Lighthouses and Beacons (with perhaps the exception of the wooden tops and hoods of the latter, would probably be in better condition then ever; whereas in the present system (as will be seen by the Statement) the original outlay is doubled in four years, twenty-six weeks, by the excess in the annual expenditure, the property being then more than half worn out. A more important feature still is the greater efficiency of Lighthouses and Stationary Beacons as compared with Light Vessels and Buoys, which I submit should be sought for at any cost.

13. Should you wish to receive fuller details respecting my proposed system, I shall be most happy to wait upon you with drawings and specifications, and trusting that the matter will receive the favorable consideration of Government.

An approximate Block Account and Annual Expense of Lighting and Buoying the River Hooghly.

Present System.	£	£.
To cost of the Eastern Floating Light Ship, complete	7,032	
" " Light Gaspar Light Ship, ..	8,382	
" cost of Buoys, say 200 first class, at £160 ..	32,000	
" " of a Buoy Brig, complete ..	10,760	
		58,174
To one year's maintenance of Eastern Floating Light Ship ..	3,729	
" one year's maintenance of Light Gaspar Light Ship ..	3,354	
" one year's maintenance of Buoy Brig ..	3,839	
Ditto of Buoys ..	3,222	
		14,144
Excess in Annual Expenditure in 4 years, 26 weeks of present system ...	58,174	
Original outlay of present system ...	58,174	
Ditto doubled in 4 years, 26 weeks ..	116,348	

Proposed System.	£.	£.
To cost of a Lighthouse, first order, Catopteric, revolving 120 feet above high water level in 9 fathoms, in lieu of the Eastern Floating Light Ship	22,000	
To cost of a Lighthouse, second order, Catopteric, fixed 80 feet above high water level in 4 fathoms, for Light Gaspar Light Ship ..	15,000	
To Screw Pile Beacons (say 200 first class) ...	9,540	
" fitting two sets of Screwing Apparatus into the Surveying Vessel ...	200	
To wooden ends and hoods for 200 Beacons ...	1,000	
		47,740
		10,434
		58,174
To one year's maintenance of Lighthouse, first order	500	
" ditto ditto second "	450	
" ditto 200 Beacons, (coat of paint)	250	
		1,200
		12,944
		14,144
Saving in Annual Expenditure of proposed system in 3 years, 36 weeks .	47,740	
Original outlay of proposed system ...	47,740	
Ditto recovered in 3 years, 36 weeks .	00,000	

N. B.—The cost and annual expense of the Surveying Vessel has been purposely omitted, as it would appear equally in both systems	E. E.	A. R. WESTON, <i>Captain</i> .
28th September 1864.		

From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to President and Members of the Committee appointed to enquire into the adaptability of Screw Moorings to the circumstances of the Port of Calcutta,—(No. 4594, dated 29th October 1864.)

In continuation of my endorsement No. 4491, dated the 25th instant, I am directed to forward the accompanying letter,* with enclosure, from Captain A. R. Weston, and to request that your Committee will take into their consideration and will report on the questions mooted by that gentleman as well as on the subject of moorings, into which you were more particularly requested to enquire.

From CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal,—(No. 2576, dated 24th October 1864.)

With reference to the last paragraph of my letter No. 2527A of the 20th instant, I have the honor to submit that the present is a fitting time for the consideration of the question of substituting our Floating Light Ships by Lighthouses erected on the foundation of Mitchell's Screw Piles.

2. To say nothing of the frequency with which our Light Ships have for years been driven from their stations during heavy gales, and the great danger to which the crews are exposed on such occasions, as also the risks to ships making for the station during the absence of the Floating Light, there is the present melancholy apprehension now amounting almost to certainty that the *Hope* has foundered, and the *Krishna* is yet missing.

3. The application of the Screw Pile to fixed Lighthouses on sands, in localities exposed to the full action of the winds and waves in heavy storms, has for several years been successfully carried out on the Coasts of England and Ireland.

4. These structures have generally been erected in shoal water, say in sixteen to seventeen feet, but the inventor has stated that he would have no hesitation in placing Screw Piles in depths of water of five or six fathoms, and would guarantee their success.

5. In 1838 a Lighthouse on this principle was erected, by direction of the Corporation of the Trinity House, on the Maplin Sand, at the mouth of the River Thames, where the channel was formerly marked by a Floating Light.

6. This is one of a series of lights for marking the Swin Channel, perhaps the most dangerous, most exposed, and most frequented of all the channels on the Coast; all the East Country Craft and the greater portion of the Coasting and Collier Vessels passing through this channel, while its liability and exposure to heavy storms is shown by the numbers of colliers and other craft that are annually wrecked on the sands, or that founder in the channel during gales of wind in the winter season.

7. This Lighthouse, according to the evidence given by eminent Civil Engineers at a judicial enquiry before the Privy Council, is fixed upon a bank of very loose sand, covered by the sea, but the house has

* The nature of this screw was described in my letter No 2527A. stood steadily; there being nothing for the water to strike against in comparison with the holding power of the screws at the bottom of the piles.* The tide rises upon the supports of this house sixteen feet.

8. The foundation is composed of nine wrought iron piles, twenty-six feet long and five inches in diameter, having a four feet (in diameter) screw at foot of each. The screws were sunk into the bank to the depth

† Which was done by means of powerful capstans fitted on a raft previously prepared. of twenty-two feet, leaving about four feet of the piles out of the ground on which to secure the upper works. The work of sinking these piles into the ground† was completed in nine consecutive days.

9. A description of one of these Lighthouses will serve for all, and sketches of two are annexed. I shall therefore proceed to enumerate some others that have been erected on different parts of the Coast.

10. In 1839-40 the Fleetwood Lighthouse was erected in Morecombe Bay.

11. Morecombe Bay is described as the place, of all others on the West Coast of England, most exposed perhaps to the tempest and the storm, but the vibration in this structure during heavy gales has been

‡ In the Eddystone Lighthouse, during heavy storms, the vibration is so great that the rate of the time-pieces was affected. found to be so slight as not even to affect the going of a time-piece,‡ the reason was that the supports offered no resistance to the waves, though the tide rose on them at equinoctial springs to the height of thirty-two feet.

12. In 1844 a Srew Pile Lighthouse was placed in Belfast Lough, Carrickfergus Bay, on the coast of Down.

13. In 1846 a large and important beacon was placed between the Queen's and Prince's Channel leading into the Thames. It stands in a most exposed situation at the extremity of the Tongue Sand, in a depth at low water of seventeen feet.

14. Courtown Pier is another and remarkable structure built on the same principle.

15. It is erected on an open and exposed part of the coast of Wexford, a coast unprotected nearly from north to south with an open sea of seventy miles in front, while a surf of great height and force beats almost without intermission on the shore.

16. The above are sufficient proofs, without quoting further, that, as stated in the Pamphlet from which my information is derived, and from which I have drawn largely in this letter, the system may be safely employed in any situation, however exposed to the action of the sea, provided always that the ground is free from rock ; and the principle was declared before the Privy Council to be especially applicable to quicksands.

17. Mr. Walker, the Consulting Engineer to the Corporation of the Trinity House, states his belief that beacons or other structures erected upon Screw Piles would stand as well on the Goodwin Sands as on the Maplin and other places.

18. I have quoted all these facts and scientific opinions to prevent the possibility of a doubt arising as to the capability of a Screw Pile Lighthouse being erected on the sands or reef heads in our channels, and withstanding the heavy sea that prevails for months together at the Sandheads ; the evidence afforded that Lighthouses erected on the principle in question, in equally exposed situations, were as firm and substantial after ten years' continuance as when first erected, proves that they would be equally safe and substantial at the Sandheads.

19 I would therefore propose for consideration that Lighthouses be erected on the edges of the channels in the room of the Lower Gaspar Light Ship, and the Light Ship at the Eastern Channel Station ; the former to be the first undertaken, the situation possessing the greater facilities. I would also have said that the experiment might be first tried there, but there seems to be no need of experiment when the system has been tried, tested, and proved for upwards of twenty years, in tempest, sea, and surf, which are the exact characteristics of our Sandheads.

20. The Lower Gaspar Lighthouse can be erected on the edge of the nearest sand in two and a half to two and three quarter fathoms low water, say fifteen to sixteen feet, the rise of tide being twelve to thirteen feet spring tides ; we have seen that in Morecombe Bay the tide rises thirty-two feet.

21. The exact position for this light is just on the eastern edge of the Gaspar Sand, where it will answer as a guide for the Eastern Channel

as well as the Gasper ; and the light in this position will serve to mark the channel equally as well as the present Light Ship, while it will be infinitely more sure and constant.

22. On this point I have consulted Mr. Retired Branch Pilot Strevens, an Officer of great experience and talent, and the above is the conclusion arrived at, while he assures me at the same time that there is never any sensible change in the channel of the Lower Gasper ; the Upper Gasper, it is feared, from its shifting nature and character, must continue for a time at least to be illuminated by a Floating Light until the practicability and facility of shifting and transplanting these structures, if desired, has been ascertained.

23. It is believed they can be easily removed and planted in another locality.

24. The Lower Floating Light is in eight and a half fathoms low water, and a Lighthouse can be erected on the reef in about the same latitude in six fathoms, the inventor, it will be remembered, having guaranteed to sink his piles with success in thirty-six feet.

25. It is believed that, with a good floating station and every preparation previously made, the piles for these Lighthouses might be securely fixed in one fine weather season at the Sandheads, and after standing the test of the South-West Monsoon, the superstructure might be erected during the following season.

26. On the score of cost and annual expense, the comparison is altogether in favor of the Lighthouses.

27. That on Maplin Sand cost £3,350, of which the dioptric apparatus for lighting cost nearly £1,000 ; the only repair required in ten years was the occasional application of a little paint.

28. The annual expense of the Fleetwood Lighthouse in lighting materials and attendance is stated to be £335, while, on the authority of Captain Washington, R. N., Inspector of Lighthouses, the average annual expense of the Floating Lights of Great Britain is £1,316.

29. The cost of one of our Floating Lights and the annual cost of maintenance is shown in the margin.

	Rs	As.	P.
Block value	88,820	0	0
Yearly expense for Establishment, &c. ...	30,455	1	1

30. I trust that the evidence I have submitted of the great superiority of the Screw Pile Lighthouse over Floating Light Ships, either as regards security, safety, permanency of position, and maintenance of light of the highest order, impossible to be obtained in a Light Ship, and, lastly, great saving in prime cost and

annual expense, will be admitted by His Honor the Lieutenant Governor as powerful arguments in favor of my recommendation, which I beg respectfully and earnestly to press upon His Honor's early and favorable consideration.

From CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal,—(No. 2454, dated 24th October 1864.)

With reference to the 6th paragraph of your letter No. 4215T, dated 18th instant, I have the honor to submit, for the approval of the Lieutenant Governor and for publication in the *Gazette*, the additional Port Rule required.

Additional Port Rule for the Port of Calcutta.

From the 1st day of May until the 10th day of June, and from the 30th day of September until after the full moon of November, all vessels, within the limits of the Port of Calcutta, shall have their top gallant masts and yards on deck, and shall send down their top sail yards, and house their top masts when required to do so by the Master Attendant or the Harbour Master.

Any infringement of this Regulation shall render the offender liable to a penalty of two hundred Rupees, and a further sum of one hundred for every day on which he shall wilfully continue to disobey the Rule.

MASTER ATTENDANT'S OFFICE, } The 24th October 1864.	H. HOWE, Depy. Master Attendant in charge.
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From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to Master Attendant,—(No. 4842, dated 7th November 1864.)

I am directed by the Lieutenant Governor to acknowledge the receipt of Captain Howe's letter No. 2454, dated the 24th ultimo, and in reply to state that the additional Port Rule, therewith submitted, is approved, and that it will be published in the *Calcutta Gazette*.

From CAPTAIN JOHN G. REDDIE, Master Attendant, to Secy. to Govt. of Bengal,—(No. 2681, dated 31st October 1864.)

With reference to paragraph 6 of Mr. Under Secretary J. Geoghegan's letter No. 4367 of the 21st instant, I have the honor to state that, as the Lieutenant Governor has appointed a Committee to report on the mooring, I will at present go on re-laying such as I can pick up, as it will be necessary to have them re-laid before next South-West Monsoon, and I would solicit permission from the Lieutenant Governor to hire a steamer for the purpose of towing such ships as have to be taken up to Cossipore, and to re-moor all the ships in Port, they having been moored in any way; some ships of course will have to pay the expenses of the steamer; there are some it would not be fair to charge anything for. I will of course only use the steamer when necessary.

From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to Master Attendant,—(No. 4902, dated 9th November 1864.)

In reply to your letter No. 2681, dated the 31st ultimo, I am directed to state that the Lieutenant Governor authorizes you to hire a steamer for the purpose mentioned, the charge being debited to the Port Fund.

2. His Honor also approves of your proposal to re-lay for the present such of the moorings as can be picked up and to re-moor all the ships in the Port.

From CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal,—(No. 2542, dated 21st October 1864.)

With reference to the 11th paragraph of my letter No. 2504 of the 17th instant, I have the honor to report that the *Celerity* has again returned from the Mutlah Sandheads and from Balasore Roads without finding any trace of the *Krishna* or *Hope* Light Ships.

I have sent the *Swiftsure* to go down the western coast from Hidgellee to Piplee, a part already once passed over since the gale by the *Alexander* Tug, and if she is unsuccessful, and the vessels are not fallen in with by any of the ships coming from the southward, it is to be feared that the Light Ships have foundered.

From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to Master Attendant,—(No. 4583, dated 28th October 1864.)

In reply to Captain Howe's letter No. 2542, dated the 21st instant, I am directed to state that the Lieutenant Governor awaits an early report from you on the return of the *Swiftsure*, and desires to know what arrangements you would propose to adopt to supply the want of lights, either temporarily or permanently, should your apprehension of the Light Ships having foundered prove unhappily correct.

From CAPTAIN JOHN G. REDDIE, Master Attendant, to Secy. to Govt. of Bengal,—(No. 2709, dated 2nd November 1864.)

With reference to Mr. Junior Secretary S. C. Bayley's letter No. 4583 of the 28th ultimo, I have the honor to report, for the information of His Honor the Lieutenant Governor, that the *Swiftsure* is now on her way up, and I am sorry to say has seen nothing of the missing Light Ships. I fear they are totally lost.

The arrangements I have made for supplying Light Vessels and Pilot Brigs are as follows :—

The *Comet*, Floating Light Vessel, is now outside, but will be relieved in ten days by the old Pilot Brig *Gurde*.

The *Star*, Floating Light Vessel, will have to be docked and thoroughly repaired ; the *Deva* is now in her place, and the *Saugor* in the place of the *Hope* that we fear is lost.

I have the Schooner *Charlotte* doing light duty at the Mutlah in the place of the *Krishna*, but we will have to get another vessel for that duty before the South-West Monsoon ; perhaps the new Floating Light Vessel ordered from England may be out in time. I may add I have telegraphed to Bombay to know if they have any vessel to spare fit for the duty, but as yet have received no answer.

With regard to Pilot Vessels, the *Chinsurah* is at present the only vessel on the station. I will relieve her in a few days by the *Kedgerie* : the *Foam* and *Mutlah* will be got ready with all despatch, so that I will be able to carry on the duties outside, and I trust the new Pilot Vessel ordered from England will be out before next South-West Monsoon.

The *Fame*, old Pilot Vessel, will do the surveying duty in place of the *Salween*, high and dry at Kedgerie. As soon as I can spare an Officer, I will send down and have a report on her and the old Hospital

Ship *Bentinck*; the *Megna* will be got ready when we can get time. The great want in this Department is boats, and I have given orders to build them as fast as possible, and will in a future day submit an estimate of our requirements in this Department, but I hope the Lieutenant Governor will excuse my taking on myself to order the immediate construction of what is very urgently required.

FROM S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to Master Attendant,—(No. 4933, dated 10th November 1864.)

I am directed to acknowledge the receipt of your letter No. 2709, dated the 2nd instant, and in reply to state that the Lieutenant Governor approves of the arrangements proposed by you for supplying Light Vessels and Pilot Brigs, in consequence of the presumed loss of the Light Ships *Krishna* and *Hope*. His Honor also approves of your having directed the re-placement of such boats as are necessary.

FROM CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal,—(No. 2406, dated 19th October 1864.)

It is with great regret I have to forward, for the information of His Honor the Lieutenant Governor, the accompanying copy of a letter, of yesterday's date, from Mr. R. B. Yates, Executor to the estate of Mr. Acting Master Pilot E. Worthington, reporting the death, on the 5th instant, of that Officer with the loss of the Emigrant Ship *Ally*, of which he was in pilotage charge on the date of the late Cyclone.

FROM R. B. YATES, Esq., Executor to the Estate of Mr. Acting Master Pilot E. Worthington, to Depy. Master Attendant in charge,—(dated 18th October 1864.)

A fortnight having elapsed since the loss of the Emigrant Ship *Ally*, under pilotage charge of Mr. Acting Master Pilot E. Worthington, and no intelligence having been received, tending to throw any doubt upon the general opinion of his having shared the fate of the ship, and of almost all on board; that I am reluctantly compelled to forward this official announcement of his death on the 5th instant.

From CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal,—(No. 2523 M, dated 20th October 1864.)

With reference to the 4th paragraph of your letter No. 4200 T, dated Darjeeling, the 15th instant, I have the honor to report that the difficulty in obtaining labor was soon at an end, and that we have now abundance of men.

From CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal,—(No. 2532, dated 20th October 1864.)

In continuation of my letter No. 2504 of the 17th instant, I have the honor to subjoin, for the information of His Honor the Lieutenant Governor, extracts from the Arrival Reports of the Ships *Inspector* and *St. Joseph*, from which it will be perceived that the former vessel was abandoned in consequence of the damages sustained during the hurricane of the 4th and 5th instant, but fortunately no lives were lost.

Extracts from the Arrival Reports of the Ships "Inspector" and "St. Joseph," dated respectively 4th and 13th October 1864.

"Left eight Masters, two Mates, and three Junior Mates on board *Chinsurah*, P. V. Encountered a severe gale of wind on the night of the 4th, which commenced at east, travelled round by north to west, whence it abated at day-light. Vessel totally dismasted, leaky, 5 feet water in the hold; 5 p. m. on the 5th was taken off the wreck by the French Barque *St. Joseph*, in latitude 19°34 north; longitude 87°43 east; 6. p. m. fired the wreck and proceeded.

"At 5 p. m. on the 5th October 1864 rescued Mr. W. W. Wall Pilot, Abdool Khalik Nacoda, and 50 lascars off the wreck of the Arab Barque *Inspector*, in latitude 19°34 north, longitude 87°43 east. Was in company with the British Ship *Bayard*, Captain Douglas, for two or three days a little further to the southward."

From CAPTAIN H. HOWE, Depy. Master Attendant in charge, to Secy. to Govt. of Bengal,—(No. 2574 M, dated 24th October 1864.)

With reference to the 3rd paragraph of my letter No. 2504 of the 17th instant, I have the honor to forward a Supplementary Statement drawn up by Lloyd's Agents, showing the position of the Shipping in the Port up to the latest moment.

The following particulars are in Supplement to our Statement dated 15th instant:—

Azzopardi is now afloat and anchored in the stream ; will require large repairs.

Asterroid remains ashore.

Anne Royden.—Although steam was employed, failed to come off last springs, and her fate is doubtful.

Alladin also tried to come off, but did not succeed ; remains on top of the Railway Pier.

Anne de Bretagne has been sold for Rs. 11,000, inclusive of stores, &c.

Admiral Casey is still high and dry.

Aga Bakhur does not appear very badly damaged.

Annot Lyle was towed off on the 17th, and does not appear much damaged.

Astronomer.—Masts are all gone.

Agra is now afloat, having been towed off on the springs.

Botanist floated on the 17th, and has lost main and mizen masts, but her damage is all above covering board.

Bengollyan remains on shore, although repeated and vigorous efforts have been made to get her off ; she appears considerably damaged.

Broughton Hall seems much shaken.

Baron Renfrew wreck sold for Rs. 3,500, *ex* stores, &c.

Calumet is considerably damaged on port side.

Collingwood is now discharging and will be further examined.

Camperdown severely damaged on her starboard bow.

City of Paris was towed off on the 17th. Damage to masts and hull very considerable.

City of Lahore.—Though aided by powerful steam, has failed to come off. Is now discharging further, and will probably float on next springs.

Celeme has been sold by order of the French Consul. We understand hull fetched Rs. 17,800.

Clemence et Lenie remains on shore at Cossipore.

Cama Family (Country Ship) is also still on shore at Ramkistopore.

Derigs remains on shore, and it is doubtful if she will come off.

Eastern Belle came off shore on the 18th.

Esmeralda failed to get off, though assisted by steam.

Earl of Clare remains on shore ; ballast, it appears, was discharged prior to our last report.

Futtey Shah Allum was twice in tow but failed to come off.

Great Tasmania sold by auction for Rs. 9,000, *ex* stores.

Govindpore the wreck is advertised for sale.

Glenroy remains ashore, doubts entertained as to whether she will be got off. She is very much damaged.

Hannibal.—Reported afloat in our last; lost all her masts in the Cyclone.

Hindoostan (English) was towed off on the 18th; her damage is considerable.

Harry Warren.—We hear may go into dock.

Hindoostan (French) is still ashore.

India (Country Ship) remains on the bank at Boranagore.

King Arthur floated on the 16th.

Kenyon.—Despite repeated and vigorous efforts, failed to come off. Will discharge further and may get off next springs.

Lew Chew sold for Rs. 6,800 *ex* stores, &c.

Lady Palmerston was towed off on the 17th.

Leonide appears considerably stained.

Latona employed steam, but failed to come off. Will discharge further and probably float next springs.

Lady Franklin.—Wreck sold for Rs. 3,400, *ex* stores, &c.

Metes has floated with the aid of steam; damage appears considerable.

Mirzapore has also floated, and does not appear much damaged.

Medusa floated on the 15th.

Morayshire came off on the 18th; is very much damaged.

New Castle was towed off on the 17th; a good deal damaged.

Pride of Canada failed to come off; is still discharging.

Punjab (Country) remains on shore at Cossipore.

Richard Bustead has not yet been towed off.

Romania also employed steam, but remains on shore.

Royal Alexandra is a good deal damaged.

Sir Jamsetjee Family.—Fate very doubtful.

Sophia Joakim remains on shore, though efforts have been made to get her off.

Shen Shaw remains on shore.

St. Philbert is now afloat.

Simla was towed off on the 17th.

Southern Belle still on shore; doubtful if she will come off.

Singapore sold for Rs. 2,400, *ex* stores, &c.

Steamer *Mauritius* was towed off on the springs, and was subsequently found to be in a sinking state, and has been beached off Shaldonas.

Steamer *Nada* has failed to come off, though efforts have been made to extricate her.

Steamer *Nemesis* is still in Port ; *Golconda* carries the next Mails.
Steamer *Bengal* could not be got off.

Steamer *Sydney* now appears more damaged than was at first supposed.

Tulja tried to get off, but failed, and is now making water.

Tartar still on shore.

Victoria Bridge remains in the bank ; fate doubtful.

Vespasian.—Wreck sold for Rs. 600, *ew* stores, &c.

TUG STEAMERS.

<i>Alligator</i>	} All remain on shore.
<i>Columbus</i>	...	...	..
<i>Pilot</i>	...	...	.
<i>Union</i>	...	...	...
<i>Vulcan</i>	...	...	...

GOVERNMENT VESSELS.

Krishna and *Hope* (Light Vessels).—Fears entertained of their safety.

Steamer *Proserpine* has arrived safely at Akyab ; had during the Cyclone to throw over all her stores, &c.

GLADSTONE, WYLLIE, & Co.,

Agents to Lloyds.

CALCUTTA,
The 21st October 1864. }

P. S.—It now appears doubtful whether the vessel spoken in the Bay by the *Clarence* was actually the *Nile*.

From CAPTAIN JOHN G. REDDIE, Master Attendant, to Secy. to Govt. of Bengal,—(No. 2643 M, dated 27th October 1864.)

I have the honor to report, for the information of His Honor the Lieutenant Governor, the return to town yesterday of the dismasted Pilot Vessel *Foam* in tow of the Steamer *Penang*.

From CAPTAIN JOHN G. REDDIE, Master Attendant, to Secy. to Govt. of Bengal,—(No. 2814 M, dated 8th November 1864.)

With reference to previous letters as marginally noted, I have the honor to submit, for the information of His Honor the Lieutenant Governor, a compended account of all the ships that have been stranded and wrecked, with the result of the efforts made to float them.

From Master Attendant, to the Secretary to Government of Bengal, Nos. 2458, 2459, and 2468½, dated the 7th, 8th, and 10th October 1864, and subsequent reports on the subject

Memorandum showing the nature and extent of the damage sustained by the Shipping in Port during the Cyclone of 5th October, the proceedings taken in regard to the interests involved, &c., &c.

Anne Royden suffered very severe damage in hull, masts, &c.; floated about the 31st ultimo, and was subsequently towed into a clean berth, where she now lies. Steam was twice employed, the first time unsuccessfully, and the whole of the cargo has been landed, with the exception of a little linseed, which had become offensive and was thrown overboard. Nearly all the cargo landed is now safely housed, but some part has been sold by auction, its condition having been such as to render it unsafe to warehouse it. It is impossible yet to say what may prove the most prudent course for the Master to pursue.

Azemva sank off town, and has been sold as a total wreck for Rs. 700.

Astronomer remained afloat, but suffered great damage in masts, spars, &c. Hull is not damaged, and necessary repairs are progressing fast.

Athletæ sustained some damage in spars, poop, bulwarks, &c., but was not on shore. Has been repaired, and is about to leave for the West Indies.

Alexander John Kerr, with salt on board, capsized at Cossipore. Attempts are now being made to raise her with some hope of success.

Admiral was driven on shore on Ghosery Flat, but will be repaired we understand.

Ally was lost at Diamond Harbour, but no proceedings have yet been taken with the wreck.

Azzopardi was driven ashore at Seebpore, and lay there several days. Has since been towed off and will require large repairs. Damage chiefly above water.

Asteroid was driven ashore at Cossipore, where she still lies ; no attempts, so far as we can learn, having been made to extricate her. An old ship, and very seriously damaged.

Aladdin was driven ashore on the left bank of the river, and still lies impaled on the Railway pier. Has discharged the cargo on board, and attempted to get off with the aid of steam. Chances very doubtful.

Anne de Bretagne took the ground at Seebpore, but was ultimately got afloat. Has since been condemned by the French Consul and sold, hull, &c., for Rs. 11,800.

Admiral Casey got ashore at Garden Reach, and will probably be condemned and sold ; the expense of extricating her, assuming the operation to be possible, appearing very great.

Alphonse et Nelie was on shore, but has since been got off and now waits a dock.

Aaron Brown was on shore and sustained some damage in upper works. Has since come afloat, and is undergoing the necessary repairs, which are not heavy.

Aga Baker was driven on shore, but ultimately came off badly damaged. No further particulars yet ascertained.

Annot Lyte got on shore at Seebpore and lay there a considerable time. Is now afloat, repairing and loading cargo.

Ally Akbar Shaw was ashore, but subsequently floated. Is now being partially repaired.

Alaric got on shore at Cossipore, but was towed off on the following springs. Damage chiefly in upper works ; is now being repaired, but docking will be essential.

Agra took the ground and suffered considerable damage. Essential repairs are now being proceeded with, and the vessel is about to load outward cargo.

Amun Shah, an old country ship, was on shore, but ultimately floated. Repairs not yet commenced.

Botanist got aground at Cossipore, and lay there till last springs, when she floated without steam. Considerably damaged above the gunwale. Is now being repaired and loading outward.

Bolton Abbey took the ground on the Howrah side, but subsequently came off with the aid of steam, having *jettisoned* greater part of the salt (about 1,300 tons) on board at the time of the Cyclone. Lost some

Beaumâris Castle got aground at Cossipore, but subsequently floated. Discharged the cargo necessary to get on the damage, and is now undergoing the needful repairs. Injuries confined to the upper works and cabin freight.

Baron Renfrew.—Wreck subsequently sold for Rs. 3,500, i. e., hull, &c.

Bengollyon took the ground at the Mint ghat; discharged all the cargo on board, and was towed upon last springs. Damage in upper works considerable, will be thoroughly repaired here.

Broughton Hall got aground at Seebpore, and lay there about a fortnight. Was subsequently towed off, but is so damaged that it will probably be expedient to sell her forthwith.

Carobel got aground at Seebpore with damage in spars and upper works. Was towed off, and now waits instructions from Bombay.

Calumet was ashore at Cossipore, but has subsequently got off. Is now repairing damage to upper works, &c., and will shortly load outward.

Comete has been sold by auction for Rs. 12,500, hull, &c.

Collingwood damaged throughout. Came afloat shortly after the Cyclone (with the aid of steam), and has since discharged the greater part of her cargo, which consisted mainly of rice. Will be again surveyed in a few days, and it is probable that the Captain may then be in a position to decide with some accuracy on the course he should adopt.

City of Paris was driven on shore at Cossipore, remained there for ten or twelve days, during which time she discharged a good deal of her cargo (general from Glasgow). Was ultimately towed off and placed in safety, and her damage, which was very severe chiefly in masts, rigging, and upper works, is being repaired so far as necessary. Will probably lead home.

Chevy Chase was in dock at the time of the Cyclone and sustained no injury.

Childwall Abby was driven ashore on the right bank of the river with loss of fore-mast, some injury to bulwarks, &c., but was towed off and will sail shortly. A small portion of the cargo (all of which is in good order) was landed to effect repairs.

C. N. sustained great damage (bulwarks, bows, and stern, having been severely crushed and house shaken), and was driven ashore at Cossipore, but towed off some days later. Ship makes no water, and cargo on board appears undamaged, but it is not yet clear what course the Captain should adopt.

Continental took the ground on Ghosery sands ; discharged some cargo ; jettisoned a considerable quantity of seeds and jute, and floated on the 14th ultimo. Was considerably damaged, but is now repairing, afloat. Will have to dock ultimately.

Clytemnestra was on shore at Seebpore, but subsequently came off with steam. Damage chiefly in upper works and very considerable ; is now being partially repaired. Cargo, some of which has been discharged in order to effect repairs, uninjured we believe.

Camperdown remained afloat, and was not seriously damaged. Is being repaired, and will be ready to load outward soon.

Cheshire got on shore at Seebpore, but after jettisoning a small quantity of salt came off with steam. Sustained a good deal of damage in spars and upper works, repair of which has now been nearly completed.

Celyon remained afloat, but sustained a good deal of damage above water. Landed part of the cargo on board. The ultimate proceeding of the Captain uncertain.

Carribean got on shore on Seebpore Sand ; landed a large quantity of cargo, and was subsequently towed off. Is apparently hogged, and has landed the whole of her cargo nearly all in good order.

City of Lahore took the ground on the opposite bank, and lay there till last springs, when she floated without steam. Discharged nearly all her export cargo except some seeds which were jettisoned, and is badly damaged above water. Is now undergoing the necessary repairs, and will doubtless take on her original cargo.

Celenie was jammed at Seebpore and suffered great injury. Has been condemned by the French Consul and sold (hull, &c.,) for Rs. 17,800.

Clemence et Leonie got ashore at Cossipore where she still lies. Injuries very considerable, and being condemned by the French Consul has been sold for Rs. 17,600, hull, &c.

Cama Family got on shore and still remains there ; damage not considerable. Will probably be got off under an arrangement made by the Captain.

Derigo took the ground at Baranagore, and still lies there. Bilged and has been sold by auction for Rs. 4,500, hull, &c.

Eastern Belle got on shore at Cossipore, but has since been towed off. Is now undergoing partial repairs, and is about to load for Bombay.

Esmeralda got on shore at Cossipore, and, though several attempts were made to get her off, still lies there. An old ship, badly damaged, and will be sold by auction.

Eurl of Clare went aground at Baranagore, and still lies there. Damage appears considerable, but the vessel may be got off.

French Empire got on shore at Cossipore, but floated on the next springs. Damage to upper works considerable, but repairs may be completed, afloat.

Faiz Robany got on shore at Baranagore, and may be considered a wreck. Has been sold by auction, hull, &c., for Rs. 7,100.

Futty Allum was on shore at Ghosery, but is now afloat. Was much damaged above water, and will be repaired forthwith.

Futty Shah Allum got on shore at Cossipore, and, notwithstanding vigorous efforts to float her, is still there.

Forganhall rode out the storm with only trifling damage to some wood-work, and sailed a few days afterwards.

Glenroy was driven high and dry at Cossipore, where she still lies with little chance of coming off. Has received very great damage, stern smashed, hull otherwise damaged; spars, rigging, boats, &c., broken up, and will probably be sold on receipt of instructions from home, which the Master believes he may prudently await; had little cargo on board.

Govindpore sunk off town and will be sold shortly. The Captain is saving what he can.

Great Tasmania driven on shore with immense damage, hull, &c., sold for Rs. 9,000. Spars, &c., have been disposed of separately.

Genu is afloat; suffered a good deal of damage in upper works, which is now being repaired.

Georgina was on shore at Seebpore, but subsequently came afloat. Is now repairing in the stream.

Gustave et Louis was on shore, discharged cargo and came off. Damaged in upper works, but is repairable.

Harry Warren was on shore, but has since come off, and is now in the stream waiting a dock.

Hannibal was on shore at Seebpore; discharged a large quantity of cargo, and was towed off. Lost all her masts and was otherwise damaged, but is now undergoing repair, and will likely take on her original cargo.

Helen Nicholson sustained a good deal of injury in masts, rigging, &c., from colliding ships and otherwise during the hurricane, but was not driven on shore. Is now discharging her inward cargo (general from Liverpool), and undergoing repairs.

Hanover was driven ashore at Ghosery, and lay there about three weeks, during which time she discharged nearly all her cargo, principally rice, for China, in very good condition. Was ultimately towed into a safe berth, but is most severely damaged in every way, and it is very doubtful whether she will be found repairable.

Hippolyta rode out the Cyclone at her anchors in the stream, and sustained little or no damage.

Hindostan got on shore at Cossipore, landed part of her cargo, and was towed off on last springs. Damage chiefly in upper works is now being repaired.

Hindostan (F) got on shore at Seebpore, where she now lies. Bilged and has been sold by order of the French Consul for Rs. 10,000, hull, &c.

Hampden was on shore, but floated without steam. Is being repaired, afloat.

Iron Duke remained afloat, and the trifling damage aloft has been repaired.

Indian got on shore at Baug Bazar, and still lies there high and dry. Efforts are being made to extricate her.

India got on shore at Baranagore, and still remains there.

John Chism was ashore, but landed about 2,000 bags of rice and has since floated. Is undergoing thorough repairs (which will be very expensive), afloat.

King Arthur got on shore at Ghosery; discharged most of her cargo, and was ultimately towed off. Is considerably damaged, but is being repaired, will have to dock.

Krishna was ashore, now afloat, masts and upper works gone, but hull not much injured. Is undergoing repairs.

Kenyon was driven on shore at Cossipore with loss of main and mizen masts by the board, &c., and remained there till last springs when she floated without steam. Jettisoned 5,600 bags of linseed, and landed the remainder of her cargo in good order; will repair here.

Lew Chew has been sold by auction for Rs. 6,800, hull, &c.

Lady Rawlinson got on shore at Sangaihall Point, and still remains there, though attempts were made to float her. Will probably be got off.

Lincolnshire took the ground at Cossipore, but was ultimately got afloat. Damaged in masts, rigging, &c., and will have to dock; repairs are being proceeded with, afloat.

Lady Franklin sunk off town; crew saved we believe. Has since been sold by auction for Rs. 3,400, hull, &c.

Lord Lyndhurst remained afloat, and suffered only a little damage, which is being repaired.

Lady Palamerson took the ground and remained there about a fortnight. Is now partially repairing damages, which were considerable, and will shortly leave for London.

Latona was driven ashore on the opposite bank and remained there till last springs, when having landed a large quantity of cargo, and employed steam, she was got afloat; is very much damaged. Estimate for her repairs being made up.

Leonide got on shore at Seebpore in a dangerous position, and had to jettison a good deal of salt. Came off and will dock for repairs, which, however, will not likely be heavy.

Manilla was no shore, but subsequently floated. Is being repaired, but will have to dock.

Metis got aground at Seebpore, and remained there till last springs. Damage to upper works considerable. Is being repaired.

Moorefort was driven on shore with loss of main mast, &c., but subsequently floated, and was put in safety with the aid of steam. Discharged a small quantity of cargo, but has since received it on board; is now repairing, and will leave in a week or two.

Macduff was driven on shore, but subsequently towed off, having sustained considerable damage. Hull appears less injured than was expected, and repairs are being proceeded with, afloat, though vessel will have to dock ultimately.

Monmouthshire was driven on shore and sustained considerable damage in upper works and spars. Came afloat, is being repaired, and will shortly leave for Bombay.

Mirzapore was on shore, but the cargo having been landed has been got afloat, and is now undergoing repair before proceeding on her voyage. Damage to spars, riggings, bulworks, &c., considerable.

Medusa.—Master reports was beached by him at the Mint; landed a considerable quantity of cargo, and was towed off on the next springs. Is undergoing partial repairs, and will probably dock here.

Morayshire got on shore at Cossipore, but floated on the 18th ultimo. Damage considerable; waits instructions from home.

Martaban was dismasted, and is now discharging cargo.

Merrie England was no shore at Cossipore, but subsequently floated. Damage confined to upper works; is now being repaired, afloat.

Mahratta is still in dock undergoing repairs partially necessary before the Cyclone.

Nouvelle Ascension was on shore, but subsequently floated. Has been condemned by the French Consul.

Nagasaki remained afloat, but sustained some damage,

Nimrod was on shore at Cossipore, and lay there about a fortnight. Considerably damaged, and waits instructions from home.

Newcastle was driven on shore at Seebpore with loss in masts, spars, &c., and very slight injury to hull, but, after jettisoning some cargo and landing more, came off with the aid of steam. Ship will probably dock for repairs.

Oanita, salt laden, took the ground in the Cyclone; was at one time in a dangerous position, her forefoot having been on the top of the wreck of the *Azemia*; got clear ultimately, having suffered comparatively little damage, and is now discharging salt.

Pride of Canada got on shore on Ghosery sands, and, notwithstanding that her cargo has been discharged and other efforts made to extricate her, and that she *did* float at one time, still remains there. Damage considerable, but the ship may be got off. Will probably wait instructions from home.

Prince Royal was on shore at Cossipore, but subsequently came off. Damaged in upper works, and is being repaired, afloat.

Punjab (Country Ship) got on shore at Cossipore, and still lies there, though considerable efforts have been made to float her.

Queen of the Age got on shore at Nimtollah, but landed a good deal of cargo, and was towed off on last springs.

Royal Oak got on shore at the Salt Golah Moorings, but was ultimately towed off; will probably undergo partial repairs here.

Richard Busteed got ashore at Cossipore and still lies there; the efforts made to extricate her having proved unsuccessful. Will probably be sold for account of the concerned.

Red Rose was driven ashore at Baranagore, and subsequently got afloat. Has sustained heavy damage, part of which is now being repaired ; will have to dock.

Romania was on shore at Prinsep's Ghat, and remained there till last springs, when she was got off. Discharged cargo and will be repaired, afloat. Damages very slight.

Royal Alexandra was on shore at Garden Reach, but ultimately floated without very serious damage. Is being repaired, afloat.

Sesostris went on shore at Cossipore and remains there; almost a wreck. Attempts are being made to float her.

Sir Jamsetjee Family got on shore at Cossipore, and lay there till last springs on her broadside. Is now afloat, and will be repaired here. Damage general and very extensive.

Southern Cross got on shore on the left bank and still remains there. Damage considerable.

Sophia Joakim got on shore at Cossipore and lay there till last springs, when she was towed off. Jettisoned a portion of her coal cargo. Damage chiefly above water and considerable. Will be repaired here.

Sir John Lawrence (1,019 tons), was on shore, landed most of her cargo and floated. Lost her mast and was otherwise badly damaged. Will have to dock.

Sinla sustained considerable damage, chiefly in her upper works; lay on shore nearly a fortnight, during which time she jettisoned about 750 tons of salt, but was ultimately towed off, and is now repairing damages.

Sea Horse in ballast was driven on shore at Seebpore with some damage, which is now being repaired so far as necessary. Came off the ground two or three days after the Cyclone.

Sarah and Emma remained afloat, but sustained some damage, which has since been repaired. Is now proceeding down the river.

Salway driven on shore with immense damage. Hull, &c., have been sold for Rs. 22,600.

Sir William Eyre driven on shore and still lies there. Damage so great that she has been sold on account of the concerned for Rs. 15,700, hull, &c.

Sooloo remained afloat, but will require to dock.

Sir John Lawrence 699 tons, is in dock undergoing repairs, which will be completed, afloat, so far as may appear necessary. Is loading for Bombay.

St. Philbert was on shore at Seebpore, but ultimately floated. Badly strained. Has been condemned by the French Consul.

Singapore (French)—Wreck, sold for Rs. 2,400, hull, &c.

Southampton got on shore at Seebpore, where she became a wreck. Has been sold for Rs. 9,600, hull, &c.

Speedy was on shore at Cossipore, but floated on the next springs; badly damaged. Will probably be repaired here.

Salsette was on shore at Cossipore, but subsequently floated; considerably damaged.

Southern Belle got ashore at Seebpore, and still remains there. Will probably be got off. Damage not serious.

Steamer Arratoon Apar totally dismasted, and all her deck-works damaged. In safety and is being repaired.

Steamer Bentinck, Government Hospital Steamer, lost near Diamond Harbour, but no life sacrificed.

Steamer Bengal (Peninsular and Oriental Company's) will probably be got off at great expense.

Steamer Mauritius got on shore; discharged a good deal of cargo, floated, was found to make a great deal of water and beached. Has subsequently been got afloat again, and the leak discovered and stopped. Is being repaired and may not have to dock.

Steamer Sydney was on shore and suffered considerable injury above water, as well as some damage in hull. Is now being partially repaired here, and loading for Bombay, where repairs will be completed.

Steamer Punjab took the ground and still lies there, though efforts have been made to get her off. A canal is being cut, and vessel may float next springs. Hull, spars, &c., injured, and necessary repairs in course of execution.

Steamer Madras injured in hull and severely above water. Is now afloat and undergoing repairs.

Steamer Moulmein totally dismasted, bulwarks carried away, and hull injured. Is now afloat and being repaired.

Steamer Nada got on shore on the left bank, and, despite repeated efforts, still remains there; will probably be got off ultimately.

Steamer Nemesis (Peninsular and Oriental Company's), still repairing.

Steamer Thunder got on shore at Bankshall, and lay there till last springs. Very great exertions were made to afloat her, and were ultimately successful. Damage not very considerable; is being repaired, afloat.

Thorndean rode out the gale in the stream; sustained no considerable damage. Cargo on board at the time took no harm, and ship is now loading home.

Tormedo remained afloat, and the trifling damage aloft has been repaired. Is about to leave for London.

Thalatta took the ground off Cossipore, but was ultimately got off, and has since nearly completed her repairs.

Tchernaya got on shore at Cossipore, and still remains there; may come off.

Talavera got on shore at Cossipore, but subsequently floated. Is being thoroughly repaired, afloat.

Thames (Country Ship) got on shore at Seebpore, and still remains there, little effort having been made to extricate her.

Tulja got on shore at Cossipore, and still lies there; though efforts have been made to float her. Badly damaged, and will probably be sold.

Taragon got ashore at Seebpore, landed cargo, and floated without steam. Has been condemned by the French Consul, and sold for Rs. 10,200, hull, &c.

Tartar remains on shore; almost a wreck.

Victoria Bridge was driven ashore at Cossipore, where she still lies; the attempts made to get her off having been unsuccessful. Sustained considerable damage, but will probably yet be got off.

Vile de St. Pierre was on shore, landed her cargo, and subsequently floated. Has been condemned by the French Consul.

Ville de St. Dennis bound to Mauritius; sunk off Calcutta. Has been sold, hull, &c., for Rs. 1,600.

Vespasian bound for Colombo; wrecked off Calcutta. Has been sold, hull, &c., for Rs. 600.

Winchester got ashore at Cossipore; landed a good deal of cargo, and was ultimately towed off.

Wide Awake remained afloat, but badly damaged, is now repairing; cargo apparently uninjured.

Western Empire remained afloat, but sustained damage; and is now in dock repairing.

William Fairbairn kept afloat, and sustained little damage, beyond loss of a few spars, &c. Landed a small portion of her cargo, in order to reach the damage, but is now nearly ready for sea. Cargo not damaged.

War Eagle held on to her moorings. Is now in dock repairing; the damage she sustained (not serious), and will shortly leave for Madras.

West remained afloat, and sustained little or no injury.

Waterloo got on shore, and still remains there; very badly damaged. Captain has advertised her for sale.

Western Star has been sold, hull, &c., for Rs. 24,000.

Marie Anna has been sold, hull, &c., for Rs 6,000.

INDIA GENERAL STEAM NAVIGATION COMPANY'S

Steam Vessel *Bombay*, roofing blown away; cabins washed away.

Agra, *Calcutta*, and *Colgong*, roofing mostly blown away.

Flat *Nicholson* sank off Serampore, and total loss.

Gunga stranded at Serampore; portion of cargo lost; vessel may be recovered.

Hooghly stranded off the Mint; most of the cargo saved, and are now launching, the Flat in two pieces.

Lutchmee stranded at Cossipore, will eventually be got off; at present a steamer and a large ship are sunk outside of her.

Kalee stranded above the Mint; very much injured, and will require heavy repairs.

Gooria in rather a better position; will be launched next springs.

TUG STEAMERS.

Alligator was on shore at Culpee, but has been extricated and brought off town. Damage, it is believed, is not very serious, and to be confined to the hull.

Banshee lost.

Dwarkanath lost.

Fire Queen sunk, attempts are now being made to raise her.

Forbes was on shore, but subsequently floated, seriously injured, and is undergoing repairs.

Hercules was on shore at Cossipore, but is now afloat, and undergoing repair. Damage serious. Machinery injured.

Interloper was jammed among the shipping, and a good deal injured in the upper works. Is being repaired.

Linnet sunk.

Mary Stuart was on shore for a considerable time, but ultimately floated. Bulwarks, &c., damaged, and will be repaired.

Phoenix sunk.

Pilot got on shore, but has now come off. Upper works much damaged.

Satellite sunk.

Union was on shore at Seebpore, but got off a few days ago. Is much damaged in hull and upper works.

Columbus got a shore at Ramkistopore, and has failed to come off. Efforts are still being made to extricate her.

GOVERNMENT VESSELS.

Hope, Pilot Brig and *Krishna* have not been heard of, though every search has been made for them, and it is feared must now be given up as lost.

CALCUTTA,
The 4th November 1864. }

GLADSTONE, WYLLIE, & Co.,
Agents to Lloyds.

From A. H. BLECHYNDEN, ESQ., Acting Secy., Sailors' Home Committee,
to Secy. to Govt. of Bengal,—(dated 31st October 1864.)

I have the honor, by direction of the Committee of the Sailors'

* *Lady Franklin.*
Govindpore.
Vespanian.
Loochew.
Asemia
Baron Renfrew.
Waterloo

Home, to request that you will bring to the notice of His Honor the Lieutenant Governor the fact that there are now 138 men temporarily accommodated in the Home, the crews of vessels* which were totally destroyed by the Cyclone of the 5th instant.

These men have been obtaining employment during the month, but this is now ceasing, and the Committee have reason to fear that ere long there will be no employment for them of such a nature as they can readily perform. Under these circumstances, the Committee desire me to express the hope that His Honor

will be pleased to take into his earliest consideration what steps should be adopted with the view of relieving Calcutta of these ship-wrecked sailors.

2. I may observe that, in addition to the abovementioned men, there are a large number of other sailors now residing in the Home and the temporary branch house. These belong principally to other vessels, which have suffered so much in the late gale that it is probable many of them will be altogether condemned as unseaworthy and their crews will, consequently, be thrown altogether out of employ, and must also continue to receive accommodation in the Home, till steps are taken for sending them back to England or elsewhere.

3. The Committee would, in conclusion, beg leave to enquire whether, under the circumstances set forth, the Government would be prepared to enter into arrangements with Commanders of vessels leaving this Port during the ensuing cold season to ship few extra hands, according to tonnage, on such terms as may reimburse them from actual loss.

From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to Commr. of Police, Calcutta, and Master Attendant,—(Nos. 4821—22, dated 5th November 1864.)

In forwarding copy of a letter* from the Acting Secretary to the Sailors' Home Committee in regard to the measures which should be adopted in order to find passages home for the large number of unemployed sailors whose vessels were destroyed by the late Cyclone, I am directed to request that you will favor the Lieutenant Governor with an expression of your opinion on the subject.

From V. H. SCHALCH, Esq., Commr. of Police, Calcutta, to Secy, to Govt. of Bengal,—(No. 1423, dated 8th November 1864.)

I have the honor to quote, in reply to your letter No. 4821 of the 5th instant, my opinion as expressed to the Sailors' Home Committee, in forwarding to them your letter No. 4526 of the 27th ultimo. I observed " that in an emergency such as the present, no time should be lost in applying to Government to bring into operation the provisions of the Merchants' Shipping Act, whereby distressed and ship-wrecked seamen may be relieved and sent home at the public expense, and Masters of British Ships may be compelled to take them.

“ The Board of Trade, in their instructions relating to the Merchants' Shipping Act, observe that ‘the power to relieve and send home British Seamen found in distress either in the Ports of Foreign nations or in British possession abroad should not be exercised without special reasons ;’ but clearly the present is one of the those occasions when the power can with expediency be exercised, and it is only by recourse to these provisions of the Act that permanent relief can probably be afforded to the seamen discharged from the vessels which have been either wrecked during the late Cyclone, or so severely injured that they have been, or will have to be, broken up.”

2. I would strongly recommend that no time should be lost in dispatching the sailors of the wrecked vessels, or of those to be broken up, for each day that they remain in Calcutta without work causes a heavy drain on the resources of the Sailors' Home Committee, and lessens their power of affording effectual relief to others, whose passage home cannot be enforced under the provisions of the Marine Shipping Act.

3. I would suggest for the consideration of His the Honor the Lieutenant Governor, whether some measures should not be adopted, in concert with the Sailors' Home Committee, to pay the passage home of the last mentioned class ; the Committee aiding the Government in paying a portion of the cost of such passage out of the fund composed of the charitable subscriptions they have received for the relief of the distress caused to sailors by the Cyclone.

From CAPTAIN J. G. REDDIE, Master Attendant, to Secy. to Govt. of Bengal,—(No. 2829, dated 10th November 1864.)

With reference to Mr. Junior Secretary S. C. Bayley's letter No. 4822 of the 5th instant, I have the honor to state that the only plan I can see to relieve the Port of distressed seamen, since the Admiral of the Indian Station does not require more than thirty, is to send as many sailors home by each ship in accordance with the provisions of the Merchant Shipping Act.

2. In my opinion it would never answer to ship men as proposed in the 3rd paragraph of Mr. Blechynden's letter, as Commanders of vessels would generally object to it, and the men shipped would only give trouble, as they would look upon themselves as privileged men, not the regular crew of the ship.

From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to Commr. of Police, Calcutta,—(No. 4978, dated 12th November 1864.)

I am directed to acknowledge the receipt of your letter No. 1423, dated the 8th instant, relative to the disposal of the distressed seamen in this Port. In reply I am to request that you will be so good as to place yourself at once in communication with the Master Attendant with a view of despatching home, as soon as possible, under the provisions of Sections 211-12 of the "Merchant Shipping Act of 1854," any distressed seamen who come within the definition contained in Section 211. I am to request that you will furnish, for the Lieutenant Governor's information, further particulars regarding the class of seamen whom you proposed to send home at the joint expense of Government and the Sailors' Home Fund. I am to add that care should be taken to keep strictly within the provisions of the law.

From CAPTAIN JOHN G. REDDIE, Master Attendant, to Secy. to Govt. of Bengal,—(No. 2795 M, dated 7th November 1864.)

Having received the accompanying telegram from Rear Admiral King in answer to one I sent, asking if he could relieve us of any of the many destitute seamen, I have the honor to state that I have selected thirty good able-bodied men, and the sooner they are sent to Bombay the better. I would therefore ask your permission to pay Rs. 50 each for their passage, which sum can be adjusted hereafter with the Board of Trade.

Telegram,—From the Naval Commander-in-Chief, Trincomalee, to Master Attendant,—(dated 2nd November 1864.)

Should it be in your power to send twenty-five seamen to Bombay free of expense, I will receive them if between twenty and thirty years of age, and physically fit for Her Majesty's Service. Please let me know.

From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to Master Attendant,—(No. 4984, dated 12th November 1864.)

I am directed to acknowledge the receipt of your letter No. 2795 M, dated the 7th instant, and in reply to convey the Lieutenant Governor's sanction to the payment of Rs. 50 in advance for the passage of each of the thirty men whom it is proposed to send to Bombay to be employed under Rear Admiral King. You should take steps to recover the amount from the Board of Trade.

From J. N. BULLEN, Esq., President, Calcutta Mooring Committee, to Secy. to Govt. of Bengal,—(dated 28th November 1864.)

In the letter No. 4460, dated 24th October 1864, from the Junior Secretary to the Government of Bengal, appointing me the President of a Committee ordered to consider and report on certain questions proposed by the Deputy Master Attendant in his letter No. 2525, dated 20th October, it was requested that the Committee should consider whether it is not, on the whole, desirable that screw moorings should be generally substituted for those heretofore in use in the Port of Calcutta, and as to what means exist for carrying out such a change either gradually or at once.

2. Bearing in mind the necessity which exists of providing safe moorings previously to the advent of the Freshes next South-West Monsoon, and of indenting at once upon England for a large supply of moorings in the place of those which may be deemed irrecoverable, the Committee have resolved to report (in anticipation of their general report on the several questions which are before it,) for the information of His Honor the Lieutenant Governor of Bengal the conclusions they have arrived at on the question of the adaptability of screw moorings to the circumstances of this Port, so that, should His Honor concur in the views held by the Committee, arrangements may be at once made for obtaining from England a supply of these moorings instead of indenting for further supplies of a description of mooring which has been proved insecure, and consequently unfitted for the purpose for which it is required.

3. It has been proved before this Committee that many of the moorings gave way before the real strength of the gale (5th October) came on; and that, while in some cases the chains have parted, in others the heaviest moorings of the Port, anchors, chains, and all, have been carried bodily to the other (Howrah) side of the river and to Cossipore. It has been further proved that, while in some instances the ships' chains parted, in the generality of cases the mooring chains (although of thicker iron) have given way. But the Committee observe that there has been nothing yet before them to show that there has been any neglect on the part of the authorities appointed to the charge of the moorings.

4. It does not seem to the Committee a matter for their consideration whether it be possible that any kind of moorings can be found which would uniformly hold the vessels in the Port in such a Cyclone as occurred on the 5th of October last, but there is no doubt in their minds as regards the superiority generally of a system of screw moorings over that hitherto in use, and specially of the value (having in view

the small space in which the vessels have to be moored) as a holding power of the screw itself, as adopted in many Ports at Home, over the heaviest anchor in use in the Port. The Committee being further of opinion that, by adopting the screw system, the Government will not only secure the most efficient known means of mooring ships, but also the most economical, are unanimous in recommending that these means should be at once obtained and put into use for the Port of Calcutta.

5. The Committee consider the matter, as regards the strength of the screw moorings, to be purely an engineering question, though the precise manner of applying them and the position in which they should be laid would be guided by those who have the best nautical knowledge of the circumstances of the Port and of the ships visiting it; and although the Committee have no doubt of the strength of these moorings, yet the engineering experience necessary for laying them down to the best advantage is not to be found in India. The Committee therefore suggest, for the consideration of the Lieutenant Governor of Bengal, that it will be well that the matter be at once referred to the Home Government; and that, on account of the urgent necessity of getting the vessels into safe berths before the periodical "Freshes" come down in July or August of next year, after consultation with the Corporation of the Trinity Board and other Port Authorities who are said to have employed these screw moorings, a requisition be made for a sufficient number of them, with chains and appliances complete, on the principles most approved by those authorities; and that these be at once despatched to India with competent persons and proper apparatus for laying them down. These should take the place of such moorings as cannot be recovered.

6. In making this requisition, it will be necessary to send at the same time all the data procurable regarding the nature of the ground (which is believed to be well known), the strength and effect of the tides, currents or eddies on vessels riding in the river, and a Chart of the positions in which the moorings will eventually have to be laid. With this information, and bearing in mind the inconsiderable weight of a screw as compared with an anchor, the Committee think that, while it is necessary to re-lay the moorings so far as materials exist on the system heretofore in use, there is quite sufficient time to obtain the materials for the change which the Committee recommend, in lieu of the anchors, &c., lost before the rains set in.

7. The position in which the change should be first adopted might well be left to the Marine Department, but the Committee further suggest that, in re-arranging the moorings, those which are called

second and third class moorings be altogether discarded, and the existing first class anchors be laid down in their places, the screw moorings being substituted for such first class anchors as may be deficient to complete the moorings of the Port before the Freshes come down, such portion of the river side, as the Marine Department may decide on, being left clear for the purpose. After next South-West Monsoon, the screw moorings should, in the opinion of the Committee, be gradually substituted throughout.

8. It occurs further to the Committee to suggest, for the consideration of His Honor the Lieutenant Governor of Bengal, that an Officer of the Government practically acquainted with the whole mooring system as it existed and the causes of its failure, be deputed to England, so that every information may be at hand on the subject, and the necessity of any reference to India and consequent delay may be avoided.

From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to Master Attendant,—(No. 5480, dated 1st December 1864.)

I am directed to forward to you the accompanying letter dated 28th ultimo, from the President of the Calcutta Moorings Committee, reporting the conclusions at which the Committee have arrived on the questions submitted for their consideration; and to request that you will be good enough at once to prepare an Indent for screw moorings in accordance with the Committee's recommendation. In doing this you will probably find it convenient to place yourself in personal consultation with the Committee.

2. The Lieutenant Governor is also desirous of receiving a report from you on the suggestion made in paragraph 8 of the Committee's letter, and would be glad to know if you could name any Officer well acquainted with the condition and requirements of this Port, who is now in England, and who may be willing to afford the assistance of his experience and co-operation.

From CAPTAIN JOHN G. REDDIE, Master Attendant, to Secy. to Govt. of Bengal,—(No. 2993, dated 3rd December 1864.)

In accordance with Mr. Junior Secretary S. C. Bayley's letter No. 5480 of the 1st instant, I have the honor to forward an Indent for ~~screw~~ moorings for 100 ships, marked No. 1 in the accompanying

drawing of Screw Pile Moorings ; these should be complete with chains, swivels, and a person should be sent out with the necessary apparatus for screwing them down.

2. As I am not well acquainted with Screw Pile Mooring, I consulted Colonel Fraser, R. E., (one of the Committee,) and we agree there should be Sheer Screws as well as the regular Mooring Screws with continuous ground chains to keep the vessel from sheering.

3. I would suggest that Captain Hill, my First Assistant, now in England, be requested to put himself in communication with the India Office to answer any question that may arise regarding the state of the river. Captain Hill is intimately acquainted with the river and the system of Mooring Ships that has been followed in this Port.

4. I enclose also for transmission, for reference, a Chart of the river with the Moorings laid down and the general depth of water.

5. I have in store about 1,200 fathoms of $2\frac{3}{4}$ and 1,700 of 2 inch chain, but as we have only as yet picked up one set of Moorings out of 180, it is impossible for me to say how much of this, if not all, may be used for the Moorings now being re-laid. I therefore recommend that Screw Piles with chains complete be sent out with all despatch.

6. If these are sent round the Cape, they will arrive too late for laying before the South-West Monsoon. I therefore recommend that fifty be sent Overland and a person with apparatus complete.

From CAPTAIN C. BURBANK, Protector of Emigrants at the Port of Calcutta, to Junior Secy. to Govt. of Bengal,—(No. 328, dated 19th October 1864.)

I deeply regret having to submit, for the information of His Honor the Lieutenant Governor of Bengal, the following account concerning the loss of the Ship *Ally* in the River Hooghly during the recent hurricane on the 5th instant.

2. The vessel left Calcutta for Mauritius on the morning of the 4th with 335 emigrants, men, women, and children, and was overtaken by the gale about 15 miles below Diamond Harbour, where she foundered in the middle of the river with the loss of all hands save and except twenty-two emigrants and seven lascars who have returned to Calcutta. No tidings have been obtained respecting the fate of the Captain, Pilot, Customs Officer, and Crew, who, it is believed, have all

perished. From information gathered from the survivors, there was reason to apprehend that some of their fellow-passengers had also managed to escape to the shore. I consequently proceeded to the scene of the wreck, accompanied by the Agent for the Colony, in order to afford any assistance it might have been possible to render, but regret to state that, on our arrival in the vicinity of the wreck, no trace whatever could be obtained of any more of the wrecked people. The river bank extending for miles along the shore, especially from Diamond Harbour downwards, presented one continuous mass of dead bodies of Natives and cattle; the ship herself had almost disappeared. On leaving the wreck we proceeded to the Soonderbuns in the hope of rescuing any of the people who it was thought may have been drifted in that direction, but after a fruitless search in that locality of four days, we returned to the Hooghly and landed in Calcutta on the evening of Saturday last, having been absent nearly a week.

3. The calamitous loss of life and property was painfully visible in every direction, bearing unmistakeable evidence of the fury and destructiveness of the gale throughout our entire journey.

From Captain C. BURBANK, Protector of Emigrants at the Port of Calcutta, to Junior Secy. to Govt. of Bengal,—(No. 333, dated 22nd October 1864.)

I have the honor to report, for the information of His Honor the Lieutenant Governor of Bengal, that the hurricane of the 5th instant has completely destroyed all the bungalows, sheds, and Hospital accommodation provided for the use of the emigrants in the Mauritius Depôt. Scarcely a vestige of any thing remains beyond the Office building, which has also sustained considerable injury; the few people in the Depôt at the time found shelter in a commodious brick-house within the compound.

2. Also the Emigration Agent for British Guiana has had his Depôt completely destroyed. The pukka two-storied house and the premises containing the Office stores, &c., had its river front completely blown out, and the whole building is so much shaken that it is perfectly unsafe and untenable. Mr. Marriott was fortunately able to get his people, 600 in number, into an adjoining house which was vacant at the time, where they were kept comparatively safe and dry. I am happy to be able to state that the loss of life in this Depôt during this terrific and deplorable visitation amounts to one old woman only, drowned. I

have been informed by an eye-witness of Mr. Marriott's gallant conduct while struggling to convey the above poor creature to safety, they were both swept away by the sea wave, and it was doubtful for a long time whether he could save himself, for the whole premises were submerged, the surface of the water being coincident with and raging as violently as the river, and I attribute his foresight in removing the people was the saving of many lives, more especially those who were in Hospital, which is situated on the river bank.

3. The Trinidad Depôt is also a complete wreck in so far as all the sheds are concerned, but the pukka house stood firm, and Mr Warner, who appears to have watched his time, removed his people, 500 in number, to his own house when the sheds became imperilled by the violence of the gale.

4. In the Bourbon Depôt, at the bottom of Garden Reach, I am grieved to say the casualties have been great. At 5 A. M. a large shed, capable of holding 250 souls, was blown down on about sixty people, the remainder having been able to escape before it collapsed. One man was found dead from injuries received by the falling of a beam, and about twenty others wounded. At about 12-30 the remaining two sheds came down, but happily there was no one under. Shortly after the pukka Hospital fell. Fortunately the Doctor had succeeded in getting out the patients with the exception of one man and one woman, who, I am grieved to say, are buried under the ruins. The Hospital patients with the remainder of the Coolies, 750 in number, were conveyed by the Superintendent of the Depôt to No. 23, Garden Reach, where they were accommodated for the night, and where the wounded and sick got medical attendance.

5. I am happy to say that Agents took prompt measures to house their people carefully, and that on the day following the gale I found that suitable accommodation and ample provision had been made for the safety of the Coolies.

From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to Protector of Emigrants,—(No. 4581, dated 28th October 1864.)

I am directed to acknowledge the receipt of your letter No. 333, dated the 22nd instant, submitting a Report on the loss of life and property in the several Emigration Depôts occasioned by the hurricane of the 5th instant.

2. In reply I am to state that the Lieutenant Governor has perused with regret the account of the casualties in the Bourbon Depôt, amounting to three persons killed and twenty injured, and of the loss by drowning of one woman belonging to the British Guiana Depôt.

3. The Lieutenant Governor has great pleasure in acknowledging the promptitude and energy displayed by the several Emigration Agents in providing for the safety of the Coolies under their charge, and His Honor has noticed, with special pleasure, the gallant conduct of Mr. Marriott as described in your letter under acknowledgment.

*Special Narrative of the Govt. of Bengal, (General)—
No. 1 of 1865, to the RIGHT HON'BLE SIR CHARLES
WOOD, BART., G. C. B., Secy. of State for India.*

Herewith is forwarded, in continuation of Special Narrative No. 20 of 1864, for the information of the Right Hon'ble the Secretary of State for India in Council, the accompanying copy* of a correspondence with the Commissioner of Burdwan, regarding the effects of the late Cyclone in his Division.

* From Commissioner, No. 1 T, dated 30th December 1864
To Commissioner, No 628,
dated 4th February 1865.

S. C. BAYLEY,

FORT WILLIAM,
The 4th February 1865. }

*Junior Secy. to the
Govt. of Bengal.*

From C. F. MONTRESOR, Esq., Commr. of the Burdwan Division, to Secy. to Govt. of Bengal,—(No. 1 T, dated 30th December 1864.)

In continuation of my second Report No. 169, on the effects of the Cyclone of the 5th of October last, intimating that I was about to proceed to the southern parts of this Division, I have the honor to communicate that I have visited portions of the Howrah and Midnapore Districts which were reported as having suffered the most, and beg to submit a more detailed account of the disastrous consequences of the hurricane, and, as required by your letter No. 5284 of the 26th ultimo, of the measures adopted by myself and the local Officers with a view to affording relief to the people, which was much needed immediately after the storm.

2. I shall first state what has fallen under my observation during my recent tour.

3. I proceeded, in the first instance, to the southern part of the Howrah District, and stopped at a village called "Dhaja," lying on the right bank of the River Hooghly, near the mouth of the Damoodah River.

4. This spot had been selected by Mr. McNeile in communication with myself as a relieving Dépôt, and was the first point of the Howrah District to its extreme south, in which it was considered necessary by me to adopt any measures for supplying relief from time to time to the agricultural population.

5. Above this point towards Calcutta, the actual necessities of life and food did not appear to have been felt by the people of the district after the day immediately succeeding the storm. Those who had saved themselves from the influx of the river wave left the part of the country which had been submerged, and sought refuge in the nearest parts which had not been reached by the inundation; in no case had they far to migrate; the area flooded being of no great extent, including the principal part of the Shampore Police Station and a small part of Ooloo-bariah. Beyond this tract there was no want of food and none of employment for those who were willing to take it, and rice was known to be selling in the bazars inland at a lower rate than it could be procured in Howrah and Calcutta; necessarily the stores of food which existed in the submerged tract lying on the banks of the Roopnarain and Damoodah and Hooghly Rivers were either destroyed or injured, but beyond that food was plentiful and cheaper than it could have been purchased in Howrah or Calcutta.

6. On enquiry at Dhaja I found that the inhabitants had been on two occasions relieved by the aid afforded from the Cyclone Fund; the Native Officer in charge of the embankments in that quarter informed me that gratuitous distribution of food, though eagerly sought for and accepted, had, in some measure, prevented the supply of labor for the repair of the bunds, and laborers could not then (six weeks after the storm) be procured, though 3 annas per diem had been offered them.

7. The crops in this part, as far as I could judge from their appearance, though nearly ripe, did not seem to be materially injured, and the demand for pure water, which was reported in the first instance, does not obtain at the present time. I tasted some of the water in the tanks near the river, and did not perceive it to be any way brackish.

8. The same remarks would apply to two stations lower down, Makropata (Fort Mornington) and Paroolpara westward on the left bank of the Roopnarain River, which I visited in succession, and I communicated my views to Mr. McNeile, so that no further stock of provisions will be sent there from this time.

The area of the Howrah District, as affected by the storm wave, I would demarcate by the following boundaries, viz., the Midnapore and Oolobariah Road to Kola Ghât on the Roopnarain River (this is the extreme point to the north); the Roopnarain River to the west; and the Hooghly River to the east and south; in short, embracing the greater portion of the Mundle Ghât Purgunnah belonging to Baboo Herallal Seal.

9. The loss of human life in these parts, as far as I have been able to ascertain from personal enquiry and information derived from Government Officers and those employed in the embankments, I would compute at two thousand, including all classes, throughout the Howrah District, and the destruction of cattle to eight times that number. The loss of crops I consider to be comparatively trifling, for though they were in many parts submerged, and the whole of the Mundle Ghât embankments were seriously injured, the surplus water found immediate outlet.

10. I should not omit to notice at this point the succour that was afforded to the distressed tenantry by the proprietor of the Mundle Ghât Estate, Baboo Herallal Seal, immediately after the storm; had other Zemindars only exerted themselves at first and given assistance to their ryots in the same manner as this gentleman and two others, whose liberality I shall notice hereafter, have done, the distress would not have been so great as it eventually proved itself to be.

11. From Paroolpara I proceeded up the Roopnarain to the Sub-Divisional Head-Quarters of Tumlook; here I found that the Native town had been much injured. The Cutcherry, Sub-Divisional House, the School, and other Government buildings had been entirely destroyed and were lying in ruins, and the Sub-Divisional Officer, Baboo Shama Churn Chatterjee, was holding his Office in a tent when I arrived.

12. The inhabitants, I was gratified to find, had set to work in real earnest to repair their losses and had already re-constructed their shops and houses. Trade was also flourishing, and I found rice and other commodities of food selling at prices lower than in the Calcutta markets.

13. The Deputy Magistrate, Baboo Shama Churn Chatterjee, and the Assistant District Superintendent of Police, Mr. Houghton, had done much in encouraging the inhabitants to help themselves and not be dependent on charity. Private subscriptions had been collected immediately after the storm through the agency of these Officers, which funds, coupled with the aid afforded under my orders to Mr. Smith, the Magistrate of Midnapore, in rice and money supplied from the Government Treasury, had afforded instant relief to those who were in extreme distress.

14. The tanks in the town of Tumlook had been choked with fallen trees, thatching grass, and other vegetable matter, which at first rendered the water in them not only useless but most offensive; laborers, however, were being busily employed in clearing them out, and some were already being again utilized.

15. The Sub-Divisional Offices must be entirely renewed; these were chiefly thatched buildings, and at no time anything but indifferent Offices, being constructed of half-burned bricks cemented with mud.

I shall suggest hereafter that the premises lately occupied by the Salt Agent, which are now to be purchased at a very moderate price, and are in every way well suited for the purpose, be secured for the use of the Sub-Divisional Offices, and my intention is to visit that place again in the early part of the ensuing month in company with Colonel Short, the Superintending Engineer.

16. From Tumlook I proceeded down the right bank of the Roopnarain with a view to ascertain the state of the country in Mysadul and Doroo Pergunnahs.

17. The Magistrate, Mr. Smith, who had preceded me, had suggested the formation of a relief Depôt at some point on the right bank of the river, and I had accordingly arranged for a consignment of stores at a large village called Banka, on the Banka Canal, which intersects the Mysadul Pergunnah between the Roopnarain and Huldee Rivers.

18. From enquiries that I made I found that such a step was actually not requisite, and the Assistant Superintendent of Police, Mr. Houghton, who had just returned from that quarter, reported to me that the inhabitants were suffering no distress from want of food, and that he saw no necessity whatever for having any stores placed there; my suggestion, therefore, was accordingly abandoned.

19. I went proceeded along the river's right bank to the Hooghly River, skirting the Doroo Pergunnah to Kookrahattee, Diamond Point, and thence up the Huldee River to Ballaghatta on the left bank of the river.

These points circumscribe, as it were, the Pergunnah of Dooroo Dooman and the southern portion of Mysadul, and embrace the whole of that part of the headland which, as I previously noticed, from its peculiar position, was the most exposed to the storm wave.

20. The embankments throughout the southern portion of this Circle have been almost entirely gutted and eroded, and very great loss has occurred to the agricultural population in these parts, especially about Kookrahattee and the lands lying to the north-west of Dooroo. The embankments from the Banka Canal to Geokhally, however, had been but very slightly injured, and such trifling damage as had occurred had resulted from the influx of water from the Huldee River from the south. The crops, however, in this portion are very fair, and will, I have little doubt, produce a good harvest.

21. The Pergunnah of Dooroo has the form of a basin, and, as far as I have been able as yet to judge from personal inspection, I believe the only crops in it that will have been able to withstand the effect of the wave are those immediately adjoining the embankments where the surplus water had found ready and efficient drainage.

22. The Pergunnah of Dooroo constitutes one of the Government "Khas" Estates of Hidgelee, and is let out in farm to one Joynarain Giree, who is also a wealthy Mahajun in these parts. Both the farmer and his Naib, Soorutram Prodhan, have been bright exceptions in rendering assistance to the distressed tenantry. Each of these Native gentlemen gave away all grain they had in the store, and divided any clothing that they could procure among the sufferers who applied to them for assistance before relief was sent from Calcutta. The Naib, moreover, has been constant in his attendance on the Officers who have visited Dooroo, and has personally rendered great assistance and given information that could be depended on when required.

23. The Collector, Mr. Robinson, in his wanderings in these parts has just informed me that "Joynarain Giree is said to have given away 10,000 maunds of grain, and his Naib 6,000 maunds, besides other articles; indeed, many ryots have told me that they don't know what they should have done had it not been for these two men's kindness and charity during the interval between the Cyclone and relief coming from, Calcutta." Conduct, such as this, as remarked by Mr. Robinson, seems to be deserving of approbation, especially as it may be considered disinterested, the former having only a temporary interest which will soon expire, and his Naib having no interest beyond that of his Master's.

24. I should not omit to mention that a boat full of stores was despatched from Tumlook by the Deputy Magistrate at his own expense, on the 19th of October, which was distributed, as far as it would go, to the really indigent and helpless.

25. From Balliaghatta, on the Huldee River, I re-traced my steps to the Hooghly and proceeded further south, taking the line of coast to Kedgerree, and from that point again down to the Russulpore River (which divides northern and southern Hidgelee) to a village named Dowlutpore. At this place, as well as at Kedgerree, I examined the Store Depôts established under the supervision of Mr. McNeile, and found that the provisions provided from the Cyclone Fund had been almost expended.

26. Mr. McNeile was at the same time distributing here, as well as at all the Stations already enumerated on the right bank of the river, large supplies of clothing which were eagerly sought after and accepted by the people, the more so as the cold season was fast approaching.

27. From the Huldee River to the Russulpore I could procure little or no information which could be of use to me as a guide to the extent of supplies required, or the localities to which it would have been advisable to send them; the inhabited portion of the tract being separated from the river by the abandoned salt lands, which are impassable at almost all seasons of the year.

28. Mr. Johnstone, the Assistant Superintendent of Police at Contai, had twice failed in an attempt to get to Kedgerree after on one occasion walking 6 miles along the river bank in search of a boat, and Mr. Pratt, the Deputy Magistrate of Contai, and Mr. O'Flaherty, the Executive Engineer, were equally unsuccessful in attempting to go by water in a small "dingee," the only boat they could find fit for service after the storm.

29. Mr. Smith, the Magistrate, had attempted, in company with Mr. Adams, the District Superintendent, to get to these parts by land from Balliaghatta, but was prevented, and he was compelled to take a circuitous road by Contai and so proceed by Kedgerree by land on foot back to Kookrahatee, which occupied him and the gentlemen that accompanied him, viz., the District Superintendent, Mr. Adams, his Assistant, Mr. Johnstone, and the Executive Engineer of Midnapore, Captain Swayne, four days to accomplish it.

30. The Executive Engineer of the Hidgelee Division, Mr. J. O'Flaherty, had received from Calcutta two boats full of stores

despatched by Mr. McNeile to Alalpore and Ramnagore, two central spots in the interior of South Hidgelee, and had superintended their distribution to the principal sufferers, and no further assistance in those parts appeared to be necessary. Little or no distress prevailed at and about the Sub-Divisional Head-Quarters of Contai.

31. The loss of life in the Pergunnahs south of the Roopnarain

<i>Pergunnah.</i>	<i>No.</i>
Mysadul	8,700
Cassimnuggur	650
Gomye	20
Tarapoorah	130
Natshal	80
Arrumnuggur	100
Goomghur and Agra Chuck ...	8,000
Basdebpore	10
Doroo	12,000
Total	<u>24,690</u>

River, as far as I have been able to ascertain from statistics collected and prepared by the Deputy Magistrate of Tumlook, is most distressing. I have extracted marginally the returns in round numbers, showing the destruction of life as supposed to have been caused by the effects of the Cyclone.

32. The destruction of cattle is also estimated at 95,000 head over the same area, and may, I think, be accepted as fairly correct. It should be noticed that in these parts cattle have always been most abundant, and are reared not exclusively for agricultural purposes, but for the Calcutta and other markets, where they used to be seen driven in large herds for sale to the cattle fairs at Tumlook and Oolobarah.

33 The great expense of pasturage available in the "Julpee" lands and on the embankments has always been favorable to the extensive breeding and rearing of cattle, and it is not surprising that a very large majority of these have been circumvented and swamped in the inundation, and this fact is clearly demonstrated by the numberless carcasses that are even at the present time observable in all parts.

34. With regard to the loss of human life, I am disposed to think that the number given is somewhat excessive, as the figures represent those who are reported as "missing," and my surmise has been in a measure confirmed by the information that I have casually gained from some of the villagers, that people who were supposed to have been lost in the tempest have returned.

However, there is no doubt whatever that the loss has been most appalling and that the distress has been necessarily very great.

35. From an inspection of the embankments along the southern coast I am satisfied that the greatest violence of the storm wave occurred at the points lying between Diamond Point (Jingurkhallee) and the mouth of the Huldee, the upper section of the embankment having been completely swept away and deposited in the excavation to the rear./

The land lying in the immediate interior and west of the embankment at this point is comparatively higher than other portions of the Pergunnah, and the crops, therefore, fortunately have not sustained that amount of severe damage that they have met with further inland towards the Kookrahatee and Contai Dâk Road, where they have been almost entirely destroyed; but the loss of human life, cattle, and property has been most grievous, and the cattle, from what I can see, have been almost completely destroyed.

36. As regards the dearth of fresh water, which was one of the chief objects of my enquiry, I am happy to be able to report that the want in those parts of the country which I have above noticed is not so disastrous as I was led to anticipate from the reports I had first received.

37. As far as the rivers are within reach of the villages, little or no difficulty is experienced, and a deficiency of water is a subject that has rarely been mentioned to me on my landing at any of the villages *along the river's banks*, though demands for clothing and other comforts are urgently applied for by every one as an enquirer reaches the village outskirts.

38. The chief want of fresh water is doubtless confined to villages more inland, and I have adopted measures which I will notice hereafter, which, I trust, will render all necessary aid in this important question.

39. At Kedgerree, where the storm wave had been very severe, a want of fresh water had occurred from the very commencement.

The Acting Post-Master, Mr. James Ridley, whom I should here favorably notice as having rendered much assistance in the matters of distributing relief, had dug a well in the vicinity of the Post Office, the water of which was being freely used by the inhabitants and appeared to be excellent.

40. To meet the difficulty of procuring water I instructed Mr. Dickens, the Assistant Magistrate of Midnapore, to leave his Station and to proceed at once southwards from Tumlook, making arrangements as he advanced for clearing out tanks in central positions. I had observed that this had already been effectually done at Tumlook, as already noticed, and at Diamond Point the villagers had cleared out two large tanks and replenished them by letting in fresh water from the river while the tide rose; the workmen receiving, under instructions given by Mr. McNeile, food in return for their labor.

41. As this system of employing labor appeared to me to be conducive of much usefulness, I instructed Mr. Dickens to commence excavating wells in the interior wherever the cleansing of tanks was likely to be attended with any delay ; and in communication with the Secretary to the Relief Fund, I had placed at my disposal, for the furtherance of the works and other charitable purposes, the sum of Rs. 4,000, as well as other supplies of food and implements.

42. The proposition of excavating wells has not, I believe, since learnt, been successful or popular with the inhabitants, who have, without any good reason, as far as I can judge, a prejudice against the use of well water, and appear to be stolidly indifferent in providing means against future scarcity of fresh water during the ensuing dry season, which will inevitably ensue unless they will interest themselves in the measure.

43. I am happy to have to report that I have heard from Mr. Dickens that since his first tour throughout the villages in Tumlook and Mysadul, (shortly after the Cyclone,) the water of the tanks in some places, which was at the commencement brackish and altogether useless, has recently become purified, and to the taste devoid of all saline matter. The cause of this phenomenon is to me inexplicable, but the circumstance is nevertheless indisputable and necessarily one of much congratulation.

44. I annex copies of reports which I have recently received from Mr. Dickens, who is still engaged solely in the special duty that I have assigned to him, and is, from all that I can learn, carrying out the necessary operations with much tact and judgment.

45. The Collector, Mr. Robinson, who is at present occupied in examining the state of the crops in Tumlook, Mysadul, and Doroo, reports on the subject in these terms :—" I am well satisfied with Mr. Dickens' proceedings ; what he has to do he does thoroughly, and does not raise difficulties about performing a duty which is far from a pleasant one, but takes facts as he finds them, and tries to make the best improvements he can devise."

46. In Northern Doroo Mr. Dickens has found the water in most tanks fairly good, and I myself have found the same in Tumlook and North Mysadul, but in the southern parts of Doroo some villages are badly off, however, as Mr. Dickens is now at Balliaghatta, I hope he will be able to get the better tanks in central localities in tolerable order for drinking purposes. Some of the tanks already contain fresh water without having been in any way attempted to be cleansed by the villagers further than by the removal of trees and branches from their

surface; and though it may eventually transpire that water will not be procurable at easy distances, I would not anticipate that any excessive hardship in this respect will ensue. Upwards of fifty tanks, and those the best in Doroo, have been cleaned out, and relief has been afforded to the poor of two hundred and thirty-seven villages by orders on two Depôts of stores at the Kookrahatee and Balliaghatta Depôts, which will be noticed hereafter.

47. In addition to the calamity of the storm, I regret to have to communicate that both cholera and small-pox have commenced to make their periodical ravages amongst the inhabitants of these parts; particularly in the Pergunnahs of Mysadul and Doroo sickness had increased more than had been usual in previous years.

48. On observing this I at once placed myself in communication with the Secretary of the Cyclone Relief Fund Committee with a view to securing the services of three Native Doctors supplied with medical stores to visit that part of the country, travelling from village to village, and so affording relief to the sufferers, and I have also arranged with Mr. McNeile for the passage of three additional Practitioners and a further store of medicines as soon as they can be procured in the next Steamer.

49. The Native Doctor at Midnapore has also been deputed, under instructions from the Magistrate, to render assistance in the parts about Tumlook; the Native Doctor of that Station having been attacked with cholera.

50. From information lately received, I have learnt that the two Native Doctors who were first deputed, and who are now located at Kookrahatee, and at a large village in Doroo, named Deboj, have rendered good service to the sick, and that cholera and small-pox have sensibly abated; the prevailing sickness being fever and diarrhoea. Cholera, which prevailed for some time with great violence at Tumlook, has almost disappeared.

As an instance of the direful effects of sickness, I would notice that in one small village, containing one hundred and fifty inhabitants, forty had already fallen victims to cholera and small-pox.

51. Complaints have been made by those in quest of labor that the agricultural population, though clamorous as to their losses and distress, will not come forward to work, though most liberal terms are offered them; but I believe the explanation offered by many whom I have questioned to be incontrovertible, in that the time of those who

have hitherto escaped the scourge has been and is fully occupied in attending to the sick and reaping the crops that have been spared to them.

52. During my tour, which, as I have above noticed, was confined chiefly to villages in the vicinity of the rivers, I have been unable to form a definite opinion regarding the rice crop in general; at present, as far as I have been able to judge from their appearance, the crops along the river's banks do not appear to be permanently injured; but this fact is in a measure generally admitted, and the chief amount of loss is reported to be confined to the interior, where the drainage is deficient, and the flood has remained on the surface of the cultivated lands for several days.

53. In the Pergunnah of Doroo, which I have been able to inspect from various quarters, I am satisfied that very serious injury has occurred, as there are scarcely any crops visible inland; but no correct judgment can be formed as to the injury sustained in other quarters until the corn is ripe and ready for harvest, for, notwithstanding that it may appear at present uninjured, the produce may be small, and it stands to reason that in places where salt water has been lying over cultivation for twelve hours when the plant is growing, the produce must necessarily be deteriorated.

54. I have directed the Collector of Midnapore to visit these parts as soon as the harvest time approaches, and to submit for consideration a Special Report on the subject.

Mr. Robinson, the Collector, is at the present time engaged in inspecting the several estates affected by the inundation, and on receipt of his report I shall be prepared to proceed again to Mysadul and Doroo with the object of seeing what steps it may be necessary to adopt, and I shall accordingly place myself in communication with the Board of Revenue, should it appear to me necessary to recommend any abatement or remission of revenue.

55. I will now notice the steps that were taken by the local Officers immediately subsequent to the Cyclone, and I would remark that the Magistrates and Collectors of Hooghly, Howrah, and Midnapore, as well as the Deputies and District Superintendents of Police, and their Assistants, exerted themselves most energetically in their endeavours to collect all information and render assistance in the districts in their respective charges.

In the other districts the storm was attended with little or no disaster, and in Hooghly distress, and that only among the poor, was but momentary.

56. As your first letter directed me to report merely on the *effects* of the gale, I did not consider it necessary to particularize anything further than the injury that had been occasioned, and it was not until I had perused an official letter of the Magistrate of the 24-Pergunnahs that I was aware that any report of that nature was necessary, or that the Officers of Government had been accused of being regardless of the misfortune and distress of the people.

57. The Magistrate of Midnapore, Mr. A. Smith, in concert with the District Superintendent of Police, Mr. F. Adams, on the dates specified, forwarded the supplies of provisions noted marginally along the Ooloobariah Road and to Tumlook, and a trustworthy Officer was deputed in charge of them.

8th October.	
23	Maunds of Rice
1	" " Khasari Dhall.
1	" " Salt
1	" " Kullie.
17½	Seers " Oil.
9th October.	
24	Maunds of Rice
1	" " Khasari
1	" " Moosoor.
1	" " Salt
½	" " miscellaneous spices, &c.

11th October.	
32	Maunds of Rice.
3	" " Moosoor.
2	" " Dhall.
2	" " Khasari.
2	" " Salt.
2	" " Oil.

18th October.	
24	Maunds of Rice.

Station, and from the same source funds were placed at the disposal of Mr. Houghton, the Assistant Superintendent of Police at Tumlook, and the Deputy Magistrate of Contai by Mr. Smith, on his arrival at Tumlook, on the 10th of October.

58. These stores were at once purchased and paid for from funds subscribed and placed at the Magistrate's disposal by the European and Native gentlemen at Midnapore as soon as the first tidings of distress reached the

59. Two Committees were immediately formed at Contai and Tumlook under the superintendence of the local Officers, and relief, as far as the limited funds would admit of, was at once distributed, and on receiving information of the disastrous effects of the storm, I sent instructions by telegram viâ Bancoorah (the direct line of communication being dismantled) to the Magistrate, to advance from the Government Treasury at that Station any funds that might be required to meet the wants of what was reported to be a starving population, and to proceed himself with all possible despatch to assist. Mr. Smith had anticipated my orders, and had proceeded at once to the south in company with the District Superintendent, and by the 9th every Executive Official in the district was engaged in some part of its southern portion in rendering

such assistance as was within his power, and under the greatest possible difficulties and discomfort, all means of communication, except on foot, being impracticable.

60. I cannot commend in too high terms the energy evinced by Mr. Smith, the Magistrate, and Mr. Adams, the District Superintendent of Police. Baboo Shama Churn Chatterjee, the Deputy Magistrate of Tumlook, is especially deserving of commendation for the energetic and decisive measures he adopted immediately after the storm, and the services of Mr. Percival Dickens, Mr. Houghton, the Assistant District Superintendent of Tumlook, Mr. Johnstone, the Assistant Superintendent of Contai, Mr. H. B. Pratt, and Baboo Krishna Pershaud Ghose, Deputy Magistrate of Contai, are deserving of acknowledgment.

61. I would also not omit to bring to notice the cheerful and valuable assistance rendered in this district by Mr. J. O'Flaherty, the Executive Engineer of Southern Hidgelee, and Mr. James Ridley, the Post Master of Kedgerree, in the matter of relief afforded by the Cyclone Fund.

62. I extract here some information on the subject from a demi-official letter that I received from Mr. Smith, which describes what was done at the first by the Midnapore Authorities :—

“The Deputy Magistrate of Tumlook at once sent for Rs. 500 worth of stores from Calcutta, and I sent him Rs. 500 worth more from Midnapore from the public funds you ordered to be placed at my disposal. The original intention was that these should be distributed gratuitously. I found, however, that the people were quite able and willing to pay for them, and that the distress at first existing was due in the main to the washing away of the bazar with the store in it and the temporary inaccessibility of the stores that did exist. Labor, too, was urgently wanted by me for Municipal purposes, by the Mahajuns for re-building, and by the Irrigation Canal Company, who made use of the occasion to send large supplies of grain to their works, and were especially anxious to get all the labor they could procure, and ready to employ all who wished for it. The amount I had at my disposal from private charity was quite equal to what was required at the time. When the operations under Mr. McNeile commenced, Tumlook required no assistance, and, except two hundred Rupees, subsequently received for distribution in the same manner as the money I made over to Mr. Houghton and the bale of cloth that you sent, nothing further was needed at all.

“ The tract of country between Tumlook and Banka examined by Mr. Dickens has sustained much less injury than Tumlook itself, and no great distress is prevailing, and he considers the people quite equal to the occasion.”

63. It must be borne in mind that the southern parts of Midnapore are difficult of access at any time, and were especially so under the peculiar circumstances following the Cyclone ; this was intended to have been the purport of my remarks, when in my first report I alluded to the “ delay in communication,” and had no reference to the distance of the postal line between Midnapore Sudder Station and that of Burdwan.

Moreover, as in the 24-Pergunnahs, with a basis of operation in Calcutta, no European land-holders, Missionary gentleman,* or others were to be found ready in Midnapore to come forward to give information and render assistance.

* The Revd. C Driberg, who resides in the 24-Pergunnahs, has lately kindly offered his assistance.

64. From Kookrahatee to the Russulpore River, the unfortunate Mr. Botelho was the only person who, if he had survived, would have been of any assistance, and the absolute stoppage of communication caused by the complete disappearance of boats on the Huldee and Russulpore Rivers, and the destruction of bridges on the whole of the tidal khals; would have rendered it next to impossible for the Magistrate to have communicated with him constantly even if he had been saved.

65. As regards the conduct of the Police in the Contai Sub-Division, animadverted on in my previous communications, I have to report that the Sub-Inspector of Kedgerree and one of the Constables, who were put on their trial, were convicted and sentenced to three months' imprisonment, and the Head Constable was degraded. The Head Constable of Sootahatta was punished departmentally, and the other Police gave explanation of their conduct which was considered sufficient.

The trial of the Sub-Inspector accused of extortion had not been completed.

66. My previous remarks will have shown that it was far from my intention to cast any reflection on the superior Officer of Police, Mr. Johnstone, who, on learning of the defection of his subordinates, instantly despatched a fresh body of Police, and after much effort, for which he deserves great credit, succeeded in getting to Kedgerree. Mr. Adams, the District Superintendent, accompanied the Magistrate throughout his visits to the distressed parts of the District, afforded the

fullest aid in the measures adopted for relief, and I am much indebted to him not only for the assistance rendered to the Magistrate on that occasion, but also for the zealous and efficient manner in which he aided in every way.

67. The proceedings of the local authorities at Howrah have already been reported by Mr. Craster in direct communication with the Government in accordance with orders received from you, and the parts in which the effects of the storm were most felt have been duly noticed in the early part of this Report. Baboo Heralall Seal and the Rajah of Andool are the chief landed proprietors in those parts; the former on receiving information of the distress from Mr. King, the District Superintendent, who proceeded south as soon as ever he could procure a boat (a matter of no little difficulty after the storm), at once despatched 500 maunds of rice and other stores in proportion for the relief of the ryots in his estates; but the Andool Rajah, from all I could ascertain at Oolobarah, which I visited on the 17th October, and the Magistrate's reports, rendered no assistance whatever.

68. Baboo Heralall Seal has, moreover, adopted necessary measures for the relief of sickness throughout Mundle Ghat, where as in all parts affected by the inundation, it has commenced to make its appearance. At the present moment two Native Doctors are engaged in that Pergunnah under the pay and instructions of the Baboo.

69. The Magistrate, Mr. Craster, has reported that he was altogether unable to proceed to the south of the district owing to illness brought on by his exertions on the day of the storm. His presence, moreover, was urgently required at Head Quarters, owing to the town being full of sailors, and also for other purposes.

70. The District Superintendent, Mr. King, and his subordinate Police exerted themselves with much efficiency from the commencement. Mr. King's report of his tour to the south has been already forwarded to Government by the Magistrate, and Mr. Craster speaks in most favorable terms of the assistance rendered by the force generally in the protection of valuable property hurled ashore from the river, valued at upwards of a lakh of Rupees, (the greater portion of which has in due course been restored to its rightful owners,) and providing shelter in the Outcherries and Police Stations to the crews of those vessels which were washed ashore, and left high and dry as soon as the flood subsided.

71. With the exception of one case, the whole of the Police Force in the district remained at their posts, and as far as I have been able to ascertain they did all that was in their power to do.

The Police in the town of Horwah were employed night and day in saving property, clearing the thoroughfares, removing fallen buildings, and the like, and they did their work well.

72. In the District of Hooghly the Magistrate, Mr. R. Cockerell, raised a subscription of Rs. 1,400 from the European and Native gentlemen, and distributed the same to nearly nine hundred sufferers in and about the towns of Hooghly and Chinsurah.

73. The Hooghly Branch of the British Indian Association also in a letter addressed to the Magistrate (a portion of which is extracted marginally) immediately came forward with a donation of Rs. 200, which was placed at the disposal of the Magistrate and distributed to the poor.

"I am directed to observe that the Committee cannot speak too highly of the means adopted by you in ascertaining the people who are truly and most in need of aid, and to place at your disposal the sum of Rs. 200."

74. The Deputy Magistrate of Serampore, Mr. T. H. Ryland, adopted the same plan at Serampore, and distributed from funds collected by him, amounting to Rs. 300, immediate relief to upwards of hundred persons. The Revd. Mr. Sampson and the Revd. W. Stewart rendered much assistance in collecting subscriptions and relieving the poor at Serampore and its neighbourhood.

75. As I have above stated, there was but little actual distress in Hooghly as compared with the districts lower down, which were injured by the storm wave, and all that was necessary for the Magistrate to do was done.

76. The roads which were completely choked by the falling of trees were immediately opened out and cleared both in Hooghly and Serampore, and immediate injunctions were issued by Mr. Cockerell on the Zemindars to clear all tanks of trees and branches that had been hurled in to them. The rice crops, I am happy to record, are not injured.

77. With reference to the relief afforded by Mr. McNeile from the funds placed at the disposal of the Cyclone Committee, I beg to observe that it was mainly owing to the information obtained from the local Officers that this gentleman was enabled to establish relieving depôts and afford relief to parts of the Midnapore and Howrah Districts where it was most urgently required.

78. I will abstract in a few words the proceedings of Mr. McNeile as far as they are known to me, and of which particulars are given in his reports herewith submitted in original.

79. Mr. McNeile started from Calcutta on his first relief expedition on the 23rd of October. He took down a large consignment of stores, consisting chiefly of rice, dhall, salt, and clothing, and landed them under the charge of Native Gomastahs at following places in this Division:—

Dhaja	...	} In the District of Howrah.
Fort Mornington	...	
Paroolpara	...	
Kookrahatee	...	} In the District of Midnapore.
Diamond Point or Jingra-	...	
khalee	...	
Balliaghatta	...	} Hidgelee, Midnapore District.
Kedgree	...	
Dowlutpore	...	

80. The total quantity of rice left at these places was 2,050 maunds. The system of distribution prescribed was simply this: all applicants were to receive daily a single day's supply of food, and clothing was to be given out in certain fixed quantities to all who appeared to be actually in want of sufficient clothing to cover them. The necessity for effecting an *immediate* distribution over a very large area rendered it impossible to allow the people, who crowded to the depôts, to take away large quantities for subsequent consumption. Moreover, the plan ensured the distributions against applications from many who were not in real distress.

The Gomastahs were required to keep accounts of the quantities of stores distributed and the number of people relieved, and they submitted Weekly Reports to Mr. McNeile, certifying the mode in which they had been expended; these stores were speedily exhausted. In some places from 1,000 to 3,000 persons were fed daily, and the cloth and blankets were not sufficient to clothe above a small portion of those who were in need of them.

81. On the 8th of November accordingly Mr. McNeile again proceeded down the coast with a fresh supply. There appeared to be no occasion to alter the position of any of the existing depôts, nor to increase their number except by the addition of two depôts in that part of Hidgelee which lie to the south-west of the tract which had been

swept by the storm wave, and where, as Mr. McNeile now learnt, an extensive fresh water inundation had been caused by the force of the wind having dammed up the waters of the Patro Mohun and Sunkur-poor Khals. Stores were therefore despatched by him, as soon as he returned, to Alalpore and Ramnuggur, where they were distributed by Gomastahs under the supervision of Mr. T. O'Flaherty, the Executive Engineer of Hidgelee, whose assistance I have already noticed.

82. On the occasion of this second expedition, the condition of the people did not appear to be much improved except about Dowlutpore, (the north-western part of Hidgelee,) neither life nor property had here suffered as severely as on those parts of the coast which lay to the northward. This was partly owing to the refuge from the storm wave offered by the sand hills to those human beings who were sufficiently prompt to avail themselves of it and to the cattle which managed to reach them, and partly to the action of the reverse blast of the Cyclone from the westward, which forced back into the sea the greater portion of the water which had rolled over the land before the first onset of the storm from the eastward and had inundated the crop. Dowlutpore received no further supply of food from the Relief Committee, as it was really not required.

83. At Mr. McNeile's request, the Committee then sent down a very large fresh consignment of (1,20,000 yards) cotton cloth, the greater part of which was landed on the western side of the Hooghly.

84. The Gomastahs, who were entrusted with the distribution of the cloth, were required to dispose of it all as rapidly as possible, three or four days' notice having been previously given, and it was arranged to give out the cloth at the different depôts as nearly as possible at the same time, so that the probability of people obtaining several supplies by travelling from one Station to another was next to impossible. The reports subsequently received clearly demonstrated that these operations was satisfactorily carried out.

85. From this period all occasion seemed now to have disappeared for carrying on the system of indiscriminate relief which had hitherto been adopted. Many individual cases of distress necessarily remained to be relieved, but the markets had been re-established. What was left of the crops had in many places almost ripened, and there was, as I have above mentioned, a complaint on the part of the Public Works Department Officers in some places that so long as the people were gratuitously fed, they would not come to work at the repairs of the embankments.

86. Mr. McNeile accordingly, at my suggestion, made new arrangement for the distribution of a fresh and final consignment of stores which were entrusted to him by the Committee, the greater portion of them were landed at three central places, Kookrahatee, Balliaghatta, and Kedgerree. I deputed Mr. Dickens, the Assistant Magistrate of Midnapore, as already stated, to traverse the Pergunnahs of Doroo, Mysadul, Goomgur, Erinch, and Kushba Hidgelee, which comprised the most severely devastated tract of country, and to conduct detailed enquiries regarding fresh water, and the circumstances of the inhabitants further inland, than I was able to penetrate, and it was arranged that he should relieve cases of distress by granting orders upon the depôts above mentioned to those whom he deemed worthy objects of relief. The stores accumulated at these depôts included large quantities of bill-hooks, hoes, and coir yarn for building purposes. Food was also supplied for the really indigent, and in lieu of labor to those employed in the clearing of tanks; this system is still at work and is progressing favorably.

87. Mr. McNeile has performed the duty in which he has been deputed in a most energetic and complete manner, and I have much satisfaction in being able to report from my own personal observation and enquiry that the amount of relief afforded and distributed under the careful and matured arrangements made by him reached those for whom it was intended.

88. While he has been liberal in relieving immediate suffering, his measures have been judicious, and I have no hesitation in recording that I do not consider a more suitable selection for this important duty could have been made than that by which Mr. McNeile was deputed by Government to supervise and control the arrangements connected with the Cyclone Relief Fund.

89. In conclusion I would add that the general distress arising from want of food, clothing, shelter, and water has been tided over; doubtless very great suffering in many parts has been occasioned, the reparation of which requires many months to bring about, but the present distress is now chiefly caused from sickness, almost entire villages having been depopulated from those awful scourges—cholera and small-pox.

90. I have done as much as has lain in my power to procure medical aid and sufficient medicine, and Mr. McNeile is at the present moment engaging his attention to this important subject; the Government may depend on myself and the local Officers subordinate to me

rendering all assistance that can be afforded towards relieving the sufferings, and ameliorating, as far as possible, the state of the population in the affected parts, and all that is at present urgently required is to secure the services of Medical Officers, which I am unable to command, but which I have no doubt the Government will be able to provide.

91. One remark only appears to be called for before closing this report, and that is one of much consideration, viz., what measures ought to be adopted with a view to providing against such calamities in future.

92. After the immediate and direct danger has passed away, the people usually suffer on such occasions chiefly from want of good water. Measures should undoubtedly be taken to guard against such distress for the future, and the present is a fitting opportunity for the devising of some general project which would provide against a disaster such as has been recently witnessed, embracing the whole of that part of the country which is liable to suffer from the incursions of the sea.

93. The expenditure of large sums of money in desultory efforts and works having no immediate connection with each other, and not forming the basis of a general matured system, would be nugatory.

94. A suggestion has been made to me by Mr. Craster, the Magistrate of Howrah, which is worthy of deliberation, and is to the effect that "all funds that could be made available for the purpose should be devoted to the excavation of large tanks in central situations."

These tanks should be of such capacity as to contain sufficient water, as might supply the wants of a certain area in case of the smaller tanks within it being rendered useless by an irruption of the sea; they should be protected by banks formed from the excavation as to preclude the possibility of their being overtopped, and which, independent of affording protection to the tanks, would be a refuge to the neighbouring inhabitants in case of inundation.

The construction, moreover, of large masonry granaries located in the vicinity of the tanks is also worthy of the attention of Government, and both these objects appear to be almost as important as that of protecting the country with embankments, and so far would be more useful than when the embankments, which are constructed merely to stem the torrent of the ordinary tidal wave, fail, as they did on the late occasion, the tanks would stand and afford fresh water, while provisions would be procurable from the store houses.

The subject is, however, one of great magnitude, and demands more practical information and conclusions than I am at present prepared to give, and its expediency should be most carefully deliberated on hereafter.

From D. J. McNEIL, Esq., Joint Magistrate, on Special Duty, to Secy. to the Relief Committee,—(No. 35, dated 22nd December 1864.)

I have the honor to report my further proceedings from the 28th ultimo, the date of my Memorandum No. 23, forwarded to you on the same date.

2. In that Memorandum, you will recollect I expressed my opinion that indiscriminate distribution of relief was no longer required in the tracts of country which had previously been supplied from the depôts under my charge. I have understood from you that the Committee accordingly approve my proposal to dispose of the last consignment of stores granted by them by placing them at central spots in the charge of Gomastahs under the orders of the local Officers, who are now engaged on both sides of the river in making enquiries from village to village as to the actual losses sustained by families and individuals; the stores to be given to those persons only to whom those Officers should grant orders on the depôts.

3. This change of system has been carried into effect. I have established central depôts at Diamond Harbour, Kookrahatee, Balliaghatta, and Kedgerree,—the first being placed under the orders of the Sub-Divisional Officer,—the other three under those of Mr. Dickens, Assistant Magistrate of Midnapore. The stores left at those four Stations are—

	Rice.	Dhall.	Salt.	Oil.	Coir Yarn.	Bill Hooks.	Hoes.
	Mds.	Mds.	Mds.	Mds.	Mds.		
Diamond Harbour...	1,600	400	32	80	266	2,020	2,000
Kookrahatee ...	600	150	12	30	150	1,000	1,000
Balliaghatta .	600	150	12	30	151	1,000	1,000
Kedgerree ...	1,200	300	24	60	333	2,000	2,000
	4,000	1,000	80	200	900	6,020	6,000

4. A bundle of ninety-two blankets has also been left at Balliaghatta.

5. The returns of expenditure of these stores will be submitted by the Gomastahs in charge of the depôts to the Sub-Divisional Officer at Diamond Harbour and to Mr. Dickens, respectively, and will be supported by the original orders granted by those Officers as vouchers, and those Officers will forward their reports and accounts to you. Under these circumstances, I respectfully submit that my services are no longer required in carrying out relief operations under the orders of the Committee.

6. Enclosed are Statements showing, with as near an approximation as possible to accuracy, the manner in which the supplies sent out under my charge have been distributed. No portion of the consignments specified above (paragraph 3) is included in these Statements. The details of the Statements have been taken from the weekly Returns of the Gomastahs employed in the distribution. In those which refer to the number of persons relieved I place no great confidence, for the amount of work to be performed rendered it in most cases absolutely impossible for the distributors to make accurate estimates of the numbers of men, women, and children who daily crowded round them. The estimates actually given have, I have no doubt, been made by dividing the total amount of the various stores expended during the day by the rations fixed for each individual; and, as different rations were prescribed for adults and children, the estimate of the proportionate numbers of men, women, and children has been guess-work.

7. The totals, however, may be accepted as fairly correct, and the same remark, I believe, applies generally to the Statements showing the quantities of stores distributed. It would be irrational to suppose that accurate weighments and strict honesty have been everywhere the rule. The Committee will not be surprised to hear that one Gomastah has been criminally convicted of selling their stores in the Culpee Bazar, and that I found it necessary to dismiss two others without pay on grave suspicion of a similar offence. But I fully believe that the stores committed to the Gomastah's charge have with slight loss found their way to the people for whom they were intended; and I found my conviction mainly on the fact that having, on a recent occasion, had an opportunity of visiting nearly all the depôts *after the Gomastahs had left them*, I was everywhere told by the people on the spot that the poor had been generally and freely relieved. In two places, indeed, I had the satisfaction of being met by a complaint on the part of some of the richer

inhabitants that they had not received the assistance which had been given to their indigent neighbours, a grievance which they amusingly urged with genuine indignation.

8. I may add that in three or four of the principal depôts I have had the benefit of efficient and trustworthy superintendence. My thanks are due to Mr. Fraser, at Saugor; Mr. West, at Dowlutpore; Mr. Ridley, at Kedgerree; and Baboo Bunkin Chuunder Chatterjee, Deputy Magistrate at Diamond Harbour for the useful assistance they have given me in this respect. They are also due to Mr. O'Flaherty, Executive Engineer at Contai, for undertaking to superintend the relief operations in the interior of Hidgelee. I wish also to record again my obligation to Captain Williamson, of the Steam Ship *Teesta*, and to his Officers, for the ready aid they have afforded me throughout in transporting and landing the stores.

9. The Statements speak for themselves, and require no further comment. They are accompanied by original receipts, returns, &c.

10. The effect of the operations undertaken by the Committee throughout the tracts in which I have been employed has been to save the inhabitants from starvation, and enable them to weather, no doubt with some difficulty and distress, the interval between the occurrence of the Cyclone and the ripening of the remainder of their crops. It is difficult to give any accurate estimate of the proportion of the crops which has escaped throughout the tracts which were inundated, but I am of opinion that it will be found to be somewhat less than one-half. In this estimate I refer to the weight of the threshed grain.

11. I am very glad to be able to report an unexpected improvement in the prospects of the people in some places in respect to their supply of fresh water for the rest of this dry season. I have been informed by Mr. Dickens that several of the tanks in the Doroo Pergunnah, which had been spoiled by the influx of salt water, have, in some unaccountable way, recovered their sweetness. It might be supposed that the first accounts received of the extent to which the salt water had impregnated these tanks were greatly exaggerated. But we have one notable instance of a large well known tank at Tumlook, the water of which was undrinkable for many days after the storm, and which is now quite fresh. The cause of this phenomenon is worth careful investigation, for it is not patent to ordinary intelligence. Mr. Dickens will, I believe, devote his special attention to the matter.

12. Several tanks have been cleaned or baled out, and similar operations are still being carried on by the local Officers. In many places good water will be procurable in no other way.

13. I have already reported to you the recent lamentable outbreak of cholera on both sides of the river, and every effort has been made to procure and send down Doctors and medicines. You are aware that the Medical Department have been able to supply us with only three Doctors up to date. I requested Mr. Payne, who has given us from the first so much assistance, to try if he could find some Coberajes to go down to the affected parts, and he made the attempt, but without success. They would not give up their own practice in the bazars for such a purpose. Medicines have been meantime despatched to Mr. Dickens, the Deputy Magistrate of Diamond Harbour, and Mr. Ridley, for distribution to all applicants; and I have requested those gentlemen to apply to you for any further consignments they may require. I fear little else can be done, but the measures taken cannot possibly meet the emergency, which is real and pressing. I beg to suggest that the Committee should address Government on the subject immediately.

Memorandum by J. D. McNEIL, Esq., Joint Magistrate, on Special Duty,—(No. 23, dated 28th Nov. 1864)

During the past five days I have visited all the distributing depôts along the banks of the river, and my observations have convinced me that no necessity now exists for maintaining the system of indiscriminate relief which has, until lately, been required to meet the wants of the inhabitants. In many places the harvest has commenced; almost everywhere work is available either upon the embankments or otherwise; the markets are being generally re-established; the houses are being re-built. It is true that the run upon the depôts for food has been steadily on the increase up to date, but that is far from being a proof that distress has not been materially diminished. I have even heard complaints on the part of the Officers of the Department Public Works that the facilities for obtaining gratuitous support have affected the supply of labour for the repairs of the embankments.

2. Under these circumstances, the distribution of the fresh store of provisions and house-building implements, which has been placed at my disposal by the Committee, must be effected under different rules from those hitherto in force. No doubt many individuals and families are

still in distress, and the object now is to relieve those individuals and families, and those only. This object will be attained by accumulating stores at a few central points, and giving relief from those stations to those persons only who may present certificates of their destitution signed by competent Officers who are engaged throughout the lately inundated tracts in making local enquiries.

3. In the 24-Pergunnahs local enquiries have already been extensively made, and individual cases of distress relieved by donations in cash. It will, therefore, be sufficient to locate one large store at Diamond Harbour, and to authorise the Deputy Magistrate in charge of the Sub-Division and Baboo Brahmonath Sen, who is employed in the southern part of the Sub-Division in conducting relief operations, to grant orders on the store-keepers for any supplies which they may think required. The order in each case should be numbered, signed, and dated and handed over to the applicant to present in person, and a copy of it kept in a Register. The Deputy Magistrates will be supplied shortly with a note of the exact quantity of stores available for the purpose.

4. In Midnapore the Commissioner of Burdwan, who has accompanied me on my last tour of inspection, has promised to make an immediate arrangement by which the Assistant Magistrate, Mr. Dickens, will be put in charge for the conduct of relief operations of the Doroo, Mysadul, Goomghur, Erwinch and Kush, Hidgelec Pergunnahs. He will be empowered to grant orders on the stores which I intend to deposit for his use at Kookrahatti, Balliaghatta, and Kedgree.

The Officers who grant the orders will be requested to use their utmost endeavors to induce the people, whenever it may seem advisable, to clean or bale out their tanks, or to dig wells, for the purpose of procuring a sufficient supply of good drinking water, and will pay those who engage in the work either in cash or by orders on the depôts as they may be instructed by the Authorities to whom they are respectively subordinate.

No stores whatever from this time forwarded will be given from any of the depôts under my orders except upon certificates granted as above described.

From J. D. McNEILL, Esq., Joint Magistrate, on Special Duty, to Secy. to Cyclone Relief Fund,—(dated 2nd December 1864.)

I have the honor to inform you that, on the occasion of my recent visit to that part of the Midnapore District which lies between the Roopnarain and Huldee Rivers, I found that the people were suffering extensively from cholera brought on by eating bad food, a practice in which they all persist even where good food is available in the form of charitable relief. I am of opinion that the despatch of some Native Doctors (three would, I think, be sufficient) to that part of the country is a measure which should be immediately adopted.

From J. D. McNEILL, Esq., Joint Magistrate, on Special Duty, to Secy. to Relief Fund Committee,—(No. 20, dated 23rd November 1864.)

In continuation of my letter No. 9 of the 16th instant, and of the applications by which it was supplemented on the 17th and 18th instant, I have the honor, hereby, to submit a further indent for stores to be sent to the distributing depôts along the river banks.

2. In my letter above mentioned, I informed you that I thought no fresh supplies of food would be required at Dowlutpore. I have since received reports showing that an enormous distribution has taken place there, as many as 5,000 people having been fed in one day. I have, however, also heard that good rice is now selling in that neighbourhood at a lower price than in Calcutta, and therefore I refrain from applying for any fresh store for Dowlutpore until I shall have had an opportunity of making fresh observations on the spot.

3. I have had an application made to me for a fresh supply at Moyapore, but I do not think it is urgently required. The people have work, and are altogether, in my opinion, well enough off to support themselves and their families.

4. On the other hand, the Commissioner of Burdwan has requested me to establish a new depôt at Banka, in Mysadul, at some distance from the coast, where it appears that the people are in great distress.

5. Stores, then, will be required to supply this new depôt, and also to replenish all the existing depôts except Dowlutpore and Moyapore. In the following indent it will be observed that much smaller quantities

are entered opposite to the names of those places where gratuitous relief is now given to women, children, and invalids only than to those of the other depôts :—

East Bank.

	Rice.	Dhall.	Salt.	Oil.
	Maunds.	Maunds.	Maunds.	Maunds.
Naldari	200	50	4	10
Fulta	200	50	4	10
Noorpoor	200	50	4	10
Diamond Harbour	400	100	8	20
Koleswar				
Sarsia				
Culpee	200	50	4	10
Rangafulla	200	50	4	10
Saugor	150	40	3	8
Total ...	1,550	390	31	78

NOTE.—At all these stations except Saugor, supplies have been stopped to able-bodied men. At Saugor the numbers to be fed are comparatively small.

West Bank.

	Rice.	Dhall.	Salt.	Oil.
	Maunds.	Maunds.	Maunds.	Maunds.
* Dhaja	200	50	4	10
* Fort Mornington . .	200	50	4	10
* Paroolpara	200	50	4	10
Kookrahati	350	85	7	17
Diamond Point	400	100	8	20
Balliaghatta	300	75	6	15
Banka	400	100	8	20
Kedgere	400	100	8	20
Total ...	2,450	610	49	122
Add total above ..	1,550	390	31	78
Grand Total ...	4,000	1,000	80	200

NOTE.—At the stations marked * work is expected to be immediately available on the embankments.

6. In addition to the above stores, as large a supply of building materials as the Committee think fit to send will be eagerly applied for by the people wherever the articles may be sent for distribution. I would propose to send large consignments of these articles only to those places where I can secure some constant supervision of the proceedings of the Agent in charge. I have such supervision at Diamond Harbour, Kedgerree, and Saugor.

7. Saugor has been already supplied with the articles indicated, and will require no further assistance of this description. A consignment was sent to Diamond Harbour, but it has been found quite insufficient to meet the demand. I propose to take to Diamond Harbour—

2,000 Kodals,

2,000 Kateries,

300 Maunds of String,

and at least an equal quantity to Kedgerree. A third consignment of the same quantities will serve for the present to supply all the remaining stations where such aid is required. I beg, therefore, to indent for the total supply of—

6,000 Kodals,

3,000 Kateries,

900 Maunds of String (or Yarn.)

From P. DICKENS, Esq., Assistant Magistrate and Collector, to Collector and Magistrate of Midnapore,—(No. 2, dated 11th December 1864.)

I have the honor to acknowledge your letter of the 8th December ; I have further to acknowledge the receipt of Rs. 800.

2. I arrived here on the morning of the 5th, and found that the boat containing the supplies had not arrived ; it arrived, however, on the following day.

3. On Tuesday and Wednesday, I personally visited nineteen villages in the neighbourhood, and saw the headmen of several others. With regard to the relief stores, I have adopted the plan recommended in Mr. Montresor's letter of the 30th November 1864, and Mr. McNeile's memorandum dated 28th November 1864, of giving village tickets on the depôts, the villagers themselves undertaking the transport of the stores, and naming some person or persons in whose hands they

wish them placed. The person into whose hands the things are given bind themselves to give only to the poor who are *bond fide* unable to work, and whose names are given in a list which is checked by me wherever I go in person. As, however, there are upwards of 300 villages and chucks in Doroo only, I find it impossible to visit each.

4. The supply of water is, I am glad to report, sufficient in quantity in all the villages I have visited, and tolerable as regards quality in most, excellent in two or three. I do not think, therefore, that as regards Northern Doroo, there need be any apprehension on that score. Wells, I understand, if dug, will not yield drinkable water here. What I propose to do is to have some of the best and largest of the tanks which are at present dirty, and the water of which is undrinkable, cleaned out and emptied. No new supply of water can, however, be introduced at this season of the year, as the river water is already salt. I have reason to believe that tanks, which were so salt as to be almost undrinkable immediately after the storm, are perfectly sweet now. The large tank at Tumlook is an instance of this.

5. Sickness, I regret to say, is fearfully on the increase. Cholera is spreading and has attacked almost every village. Five or six persons died here last night, and in one small village I visited, containing a population of 150, forty deaths were reported. Crowds of people apply to me daily for medicine, *indeed this is their greatest want*. I have represented the urgent necessity of letting us have a couple of Doctors for Doroo to Mr. McNeile, who has promised to have them sent forthwith, and also one for Kedgerree, where I found that cholera had broken out badly.

I propose placing one at Kookrahati and another at Balliaghatta, with instructions to make visits into the interior. Should there be any delay in the arrival of these Doctors, I am apprehensive of the most serious consequences. The people are already beginning to leave their houses in some quarters.

On Thursday evening I went with Mr. McNeile in the Steamer *Teesta* down the line of the depôts to Kedgerree, and saw the different stores ashore and left instructions with the Gomastahs at each place, returning on Saturday, the 10th. I also placed (with the concurrence of Mr. McNeile) a supply of twenty maunds of rice and other articles in proportion at the disposal of Mr. Ridley, the Post-Master of Kedegree, for the relief of any *bond fide* poor who might come to the depôt in the interval, which must elapse before I can visit the villages in that neigh-

bourhood. I leave this place in a day or two for Kistonogore, about 6 miles distant in the centre of the Doroo, near Sootahatta, where I shall be encamped a few days *en route* to Balliaghatta.

7. I have to add that I have received a letter from Government appointing me to Baraset, and as I may be required to take charge at once, I shall be glad to know whether you can send any one to relieve me here and carry on the work. I sent a telegram this morning.

From P. DICKENS, Esq., Assistant Magistrate and Collector, to Collector and Magistrate of Midnapore,—(No. 4, dated 13th December 1864.)

I have the honor to report that since despatching my letter of yesterday, the poor of seven villages have been relieved by orders on the *depôt*.

2. I have to-day visited the villages of Agadaroo, Sreedhurpoor, and Boistum Chuck, and taken measures and given advances for the cleansing of five tanks, all of which I have seen, and the water of which I have had tasted.

3. One of these tanks (the largest and best) at Boistum Chuck is in a very dirty state, though the water is sweet. I have given orders to have it thoroughly cleansed and some of the water drawn off, and have allowed Rs. 20 for the purpose. When cleansed, it will afford a supply of good water sufficient for the present season to all the neighbouring villages; the other tanks require only partial cleansing, and small sums varying from Rs. 1 to 5 have been given in each case. When these tanks are cleaned, I shall have no fear as regards water for the northern villages in Doroo.

4. I find the people exceedingly apathetic in applying for relief; this I attribute chiefly to the lamentable amount of sickness. However, even in the villages I personally visit, I have the utmost difficulty in collecting the poor; those who come are generally those able to work, and to whom I am unable to give certificates on the *depôt*. The amount of distress amongst the latter class is very great, and no embankment works have as yet been commenced in this neighbourhood.

5. The sickness is, I fear, not abating, and as yet no Doctors have arrived.

From P. DICKENS, Esq , Assistant Magistrate and Collector, to Collector and Magistrate of Midnapore,—(No. 5, dated 15th December 1864.)

I have the honor to inform you that I yesterday visited the whole line of villages between this place and Sootahatta, distributing relief to the poor, and taking particular notice of the state of the water in each village.

2. I had heard that the water in Sootahatta itself, where there is a fine large tank, was blackish and undrinkable. I found it on the contrary in good condition, and the water free from salt. I find that the complaints of bad water which reach me from the interior are in nearly every case exaggerated, and are put forward mainly in the hope of obtaining advances, and I am apprehensive of the work not being properly carried out unless I am on the spot to superintend. This causes me much loss of time; if I could obtain the assistance of one of these D. P. Overseers, it would save me much delay.

3. I think that the inference may fairly be drawn that if the water in these is not so salt as to be undrinkable or noxious, that in others which I have not yet seen cannot be in a worse state as regards brackishness, for the storm wave passed equally over all; of course they will differ as regards impurities and decayed matter, and will require different degrees of cleansing, some not requiring any.

4. A Native Doctor and medicines arrived yesterday.

From P. DICKENS, Esq., Assistant Magistrate and Collector, to Collector and Magistrate of Midnapore,—(No. 7, dated 25th December 1864.)

I have the honor to inform you that I left Kookrahatti on the 21st instant, having finished operations in Northern Doroo.

2. One hundred and six villages in Doroo and Mysadul have been relieved by orders on the Kookrahatti depôt, and I think that acute distress has been considerably mitigated.

3. About Rs. 250 have been given out for cleansing and clearing tanks, but I have not found it necessary, except in one or two instances, to have the water baled out. The state of the water in Northern Doroo (the southern boundary of which will be a line drawn from Jumberiah to Diamond Point as passing through Sootahatta) is not such as to cause any grave apprehension.

4. With regard to sickness, I believe that the presence of a Doctor with medicines will have an excellent effect. Indeed, from what I hear from the Native Doctor, Tariny Chunder Goopto, (who arrived here from Kookrahatti yesterday), I am in hopes that cholera is abating.

5. The point which I feel most uneasiness about is that no embankment repairs have as yet been commenced, and I fear that great distress prevails amongst the poor who are able to labor, and whom consequently I have been unable to relieve.

6. I reached Balliaghatta on the 21st and on the 23rd, visited Dayboy and other villages in the neighbourhood.

7. Loss of life has been far heavier than about Kookrahatti. The infirm and aged have mostly perished, and consequently the distress (amongst this class) is not so great.

8. The state of the water, I regret to say, is bad, the tanks, though cleaner than in Northern Doroo, are unmistakeably brackish, and, the people say, undrinkable. At all events the villagers in this neighbourhood seem to be bringing their water from a tank at Soloat, even from a distance of 6 miles.

9. I am taking measures to have this tank, which is perfectly sweet, carefully conserved, as I conceive that the people of Southern Doroo will have to rely mainly *on this one tank* for sweet water till the next supply of rain falls.

10. There are several fine tanks at Dayboy and elsewhere in the neighbourhood, but as the water is salt, it is obvious that the method to be pursued towards them must differ from that pursued towards the tanks in the north (which only required a little cleansing to right themselves), and that to do any good to the water must be emptied out, and, if possible, the mud at the bottom dug afresh.

11. This is of course a much more costly operation than the other, and I propose, therefore, to select some thirty of the best tanks in central positions and to have them emptied out.

12. I have now one Doctor here and another at Kookrahatti.

From D. J. McNEILL, Esq., Joint Magistrate on Special Duty, to Commr. of the Nuddea Division,—(No. 1, dated 27th October 1864.)

I have the honor to inform you that I have visited and relieved the following places since I started from Calcutta on Sunday :—

On the East Bank.

Naldari (Boroi).
Fulta.
Noorpore.
Diamond Harbour.
Culpee.
Rungafulla.

On the West Bank.

Dhaja.
Fort Mornington.
Paroolpara (on the Roopnarain).
Koookrahatee (Moteeram Chuck).

I have also visited Tumlook, but found it unnecessary to leave any supplies there. I am about to proceed immediately in the Tug Steamer *Francis Gordon* down the Midnapore Coast as far as Cowcolly. I have had an interview with Mr. Smith, the Magistrate of Midnapore, and received some valuable information from him. A full report of my proceedings will be submitted hereafter.

I am about to despatch the Steam Ship *Teesta* back to Calcutta immediately for a fresh supply of provisions, for which I have telegraphed to the Secretary to the Relief Committee. I propose to return from Cowcolly to Diamond Harbour on Saturday in the Tug Steamer, and then, allowing her to go back direct to Calcutta, follow her up in the *Teesta*, which I hope will by that time have come down again reladen, and sent fresh supplies on shore at the various Depôts established between this place and Calcutta. If this plan be carried out, I shall probably reach Calcutta on Wednesday next, and shall by that time be able to judge of the further measures of relief which should be adopted.

A copy of this letter will be sent to the Commissioner of Burdwan, and another copy for the information of the Secretary to the Relief Fund.

From D. J. McNEILL, Esq., Joint Magistrate on Special Duty, to Commr. of the Nuddea Division,—(No. 6, dated 2nd November 1864.)

I have the honor to report, for your information, that on Friday morning, the 21st ultimo, immediately after hearing from you that I was required to proceed down the Hooghly River with supplies for the inhabitants along the banks, I called upon the Secretary to the Cyclone Relief Committee, and learned from him the arrangements which were in progress for lading the Government Steamer *Teesta* with provisions.

I afterwards had an interview with the President of the Chamber of Commerce, and then called upon the Superintendent of Marine; and some doubts having been expressed as to the capacity of the *Teesta* Steamer to convey all the stores required, I met the last-named Officer next morning at the Government Dock-yard, and we inspected her. It then became apparent that it would be impossible to take in her, and in Cargo Boats towed by her, above half of the whole quantity of stores which were being collected for the expedition. I also then learned for the first time that it would be running a great risk to take her far below Diamond Harbour, the lower reaches of the river being unsafe, except in the very calmest weather, for flat-bottomed Steamers.

2. Captain Howe then proposed that a Tug Steamer should be sent down with Cargo Boats in tow, a plan in which, as supplementary to that of despatching the *Teesta*, I fully concurred. You signified your approval, and Mr. Bullen forthwith engaged to provide the Steamer, and send her after me to Diamond Harbour on the following Wednesday morning.

3. The lading of that portion of the stores which I proposed to take with me, was delayed throughout Friday and Saturday morning by the incessant rain; but on Saturday evening they were all taken down the river to the Commissariat Wharf, where the *Teesta* was lying. On the same day I, with some difficulty, procured casks, ranging from twenty to forty gallons each, to contain a total amount of 1,000 gallons of water. These casks were shipped empty, and the water was put into iron tanks supplied by Mr. Obbard, the Superintendent of the Dock-yard.

4. On Sunday morning all the stores were put on board the Steamer and one Cargo Boat, and at 3 p. m. I started, accompanied by the Revd. Mr. Payne, who, as you are aware, had kindly offered his assistance in carrying out the relief operations. We brought eighteen Gomashtahs, whom I intended to leave in charge of the various depôts which were to be established along the river banks.

5. The following stores were shipped on board the *Teesta* and her Cargo Boat:—

Rice	...	...	..	...	1,080	Maunds.
Dhall	...	...	...	..	227	„
Oil ...	...	...	..	...	20	„
Parched Rice	.	.	..		30	„
Salt	...	...	...	.	30	„
Chillies	...	...	...	...	15	„

Tobacco	...	...	...	...	8 Maunds.
Blankets	...	..	..	...	750 Pieces.
Cotton Cloth	..	...	...	...	2,000 Yards.
Cooking Pots	...	...	...	...	300 (About.)
Hookahs	...	...	...	...	100 „

6. At 8 o'clock on Sunday evening we reached Atcheepore, between which place and Calcutta the inhabitants, as you had informed me, required no immediate assistance. At day-break on Monday morning we weighed anchor, and in half an hour reached the village of Horyagunge, on the right bank of the river, about 6 miles below Oolobariah. At Oolobariah itself the inhabitants were in direct communication with Calcutta, and needed no supplies from me. At Horyagunge, though much damage had been done by the gale, the distress did not seem either to Mr. Payne or myself so severe as to justify me in giving away to the villagers stores which I expected to find more urgently required further down the river.

7. We accordingly proceeded to Naldari, near Boroi, where a distributing depôt had been previously established by Mr. Smith. We found that the provisions which he had left were all exhausted, and that the Gomastah in charge had gone away to Calcutta. I landed a fresh store here, but observed that the inhabitants were in such a state of destitution that they would require another supply after a few days.

8 The villagers here mentioned several Zemindars, who had property in the neighbourhood, and who, they said, had rendered no kind of assistance to their ryots. I think it right that their names should be known, so that they may contradict the account which I received if it be untrue. The gentlemen referred to are Baboo Anunda Chundra Mookerjee, Bisheshwar Mookerjee, and Gungadhur Banerjee, of Kidderpoor; Prannath Chowdry of Satkhira; and Apoorba Krishto Bahadoor of Soba Bazar, Calcutta.

9. From Naldari we went on to Dhaja, on the west bank, near the mouth of the Damoodah River. Here I was informed that a deputation, consisting of the Izaradars of the village and some of the inhabitants, had gone the day before to Calcutta to represent the state they were in to their Zemindar, Baboo Herallall Seal, who was reported to have sent some supplies to the Shampore Bazar, a few miles across the Damoodah, but who had done nothing for Dhaja and its neighbourhood. I established a depôt, and then crossed the river to Fulta, which Mr. Payne had visited while I was engaged at Dhaja.

10. At Fulta we found the people in great want of food. They seemed, however, to be a more than usually lazy and thankless set. It was with great difficulty and some hours' detention that we succeeded in inducing them to bring on shore, carry up and store the provisions I gave them. They appeared also a little inclined to be quarrelsome, so I left two Gomastahs in charge, and sent orders to the Sub-Inspector of Ettagachy to see that no disturbance took place. As the Fulta Bazar appeared to be a very disreputable place, I located the Gomastahs with their store at the little village of Jafarpore, a short distance to the southward. Here also the Zemindars seem to have done nothing. Their names are Kali Krishna and Narendra Krishna, of Soba Bazar.

11. From Fulta we proceeded to Noorpore, reaching it about sunset. We had had a hard day's work, but Mr. Payne went on shore immediately, and finding that the Gomastah, who had been left there on the occasion of the previous expedition, had distributed very nearly all his stock of provisions, he sent him off to me. I supplied him with a fresh store, and then we anchored for the night. Mr. Payne was here informed that Baboos Shamprosad Chowdry of Bhowanipore, and Preonath Roy Chowdry of Bag Bazar, had sent no supplies to the ryots on their estates. Baboo Rajkrishna Mitra (of Simla, Calcutta,) had, on the contrary, sent all kinds of necessary stores for distribution to the people on his property.

12. On Tuesday morning we crossed over to Fort Mornington. Here two Gomastahs had been left by Mr. Smith. Their stores had been exhausted, and they left for Calcutta three days before. I left a fresh supply in charge of a Gomastah, and then went up the Roopnarain River to Tumlook. Here I met the Assistant Superintendent of Police, Mr. Howton, and the Assistant Magistrate, Mr. Dickens, who had just been on a tour of inquiry, which had embraced with other localities the southern bank of the Roopnarain down to the mouth. He told me that there was no starvation along that line of country, but that immediately to the southward, in the Khas Mehal of Doroo, the distress was very great. Tumlook itself had been severely visited by the storm, but the inhabitants were rapidly recovering themselves, and Mr. Howton told me that out of a sum of Rs. 129 placed at his disposal for charitable purposes, about Rs. 100 were still in his hands. It was obviously unnecessary to leave supplies there, so I crossed the river (Roopnarain) to Paroolpara.

13. Paroolpara we found almost swept away, and the remaining inhabitants in great distress. The villages situated a little further inland

seemed, however, to be much less injured. I left a small supply for the relief of Paroolpara itself and its immediate neighbourhood, and then proceeded to Kookrahatti (Moteeram Chuck), which is at the northern extremity of the Doroo Mehal. Just before I reached this place, I fortunately met Mr. Smith, the Magistrate of Midnapore, who had travelled up from Kedgerree, and who gave me some valuable information as to the places along the coast where relief was principally wanted. They will be noticed in order below.

14. Kookrahatti itself we found in a terrible state. The stench from human bodies and carcasses of cattle, which lay around in all directions, was almost insupportable. We tried to induce the villagers to throw the bodies into the river, but they would all die before they touched one of them. We met here the Naib of the Izaradar of the Mehal, who assured us that he (the Naib) had, immediately after the catastrophe, distributed gratis 6,000 (six thousand) maunds of rice, his own property, to the people. Some light was subsequently thrown on this not very probable story. We found out some days afterwards that he had had some 12,000 maunds in store when the Cyclone occurred. About half was washed away, and the remainder so damaged as to be unfit for sale in Calcutta. This damaged rice he had disposed of on the spot, perhaps gratuitously; but it is a curious circumstance that on revisiting Kookrahatti the other day we were told that rotten rice was selling at Rs. 1-5 per maund at the hâts, and on the day of our first visit we found in the bazar a pile of about a dozen bales of rotten rice of which we could get no intelligible account. I am of opinion that the proceedings of that Naib and his people require careful investigation. I formed a fresh depôt here, leaving rice only. They had dhal in the bazar, and salt was expected immediately from Tumlook.

15. We then crossed over to Diamond Harbour and anchored for the night. Deputy Collector Baboo Brahmonath Sen came on board at day-break next morning, and I supplied him with some blankets and a small supply of dhal, which was required by the Sub-Divisional Officer. He had also applied to me for rice, but I was obliged to withhold a supply until the arrival of the Tug Steamer in the afternoon from Calcutta. Meanwhile I proceeded to Culpee, with the view of supplying that place and Rungafulla, and returning to Diamond Harbour in time to meet the Tug immediately on her arrival.

16. At Culpee I found that the store which had been left there was exhausted, and the Gomastah had gone away. I sent a fresh store

on shore, and re-established the depôt. Here Mr. Payne and myself had a conversation with an agent of the Zemindar, Baboo Hara Persad Roy Chowdry, of Chukarberria. This man had been about a week at Culpee, and had come, he said, with orders from his master to help the ryots with money "if they required it" to re-built their houses. "He saw that they were getting on very well without it," so he had given them nothing. On further enquiry, it appeared that he had brought nothing to give them. We made special enquiries here about the means available for procuring fresh water. For about three weeks, the people said they would be able to procure fresh water at ebb tide from the river. All their tanks were spoiled, and they all averred that, if new tanks were excavated, they would fill with salt, not fresh water. This is a point which cannot be decided except by actual experiment, and I have directed the special attention of Baboo Brahmonath Sen to the matter. He has just been deputed to Culpee, and will shortly report the result of such an experiment, and also of baling out an old tank which has been spoiled by the sea. As soon as the works in question are commenced, all relief will be withheld from able-bodied men who refuse to assist in carrying them out.

17. From Culpee we proceeded to Rungafulla, re-enforced the depôt there with a considerable supply, and then returned to Diamond Harbour, having expended all our store of rice, but having the larger portion of all the other provisions still in hand. I reserved them because I expected to find them more required in the western bank, and because I wished to establish larger depôts on that side of the river which could not be visited by the inland steamer, and to which it was therefore advisable, with a view to saving the Committee's funds, to arrange for as few visits as possible.

18. I reached Diamond Harbour at sunset on Wednesday evening, and found that the Tug had not arrived. I went on shore at once and had a consultation with Baboos Hem Chunder Kerr and Brahmonath Sen, Deputy Magistrates, relative to the best inland sites for the establishment of fresh distributing depôts. I think I can most readily explain verbally the conclusions to which I have arrived on the subject, and, as I hope to have an immediate opportunity of doing so, I do not encumber this report with a statement of them.

19. On Thursday morning before day-light the Steam Tug *Francis Gordon* arrived with a large fresh stock of rice, dhall, &c., and I sent on shore a stock sufficient for a few days' consumption. I also sent a number

of ' chyoonies' (baskets for bailing out water). The stores brought down by the Steam Tug consisted, according to the invoice sent, of—

Rice	...	.	..	2,250	Maunds.
Dhall		..	.	313	„
Salt	.	...	..	20	„
Blankets			...	250	Pieces.
Cotton Cloth	...	...	...	2,000	Yards.
Cooking pots	...	...	...	150	
Chyoonies	.	.	.	140	

20. From the Pilot on board the *Francis Gordon* I learned that it was impossible for the steamer to touch at or approach any point on the western bank between Diamond Point and Kedgerree. I also found that Mr. Fraser, who was on board, was in urgent want of a fresh store at Saugor. This necessitated a change in my plans, as described in my letter to your address, No. 1 of the 27th ultimo, a change the nature of which will appear as I proceed. I first ran down to Mud Point, meeting on the way and taking in tow the *Swiftsure* lugger, which had been placed at my disposal by Captain Howe. At Mud Point I made over a cargo boat to Mr. Fraser with a large stock of provisions, and some water casks, a few ready filled for immediate use. The others he would fill from the river at low tide. I tasted some of the water at Mud Point at about half ebb. It was very slightly brackish. I have no doubt that for the next fortnight water fit for drinking purposes will be procurable at low tide down both banks of the river as far as Mud Point.

21. After despatching the boat under Mr. Fraser's charge, I went across to Kedgerree and anchored for the night. Here we were employed up to 2 A. M. on Friday morning, re-distributing our cargo, and preparing two boats for despatch up the coast to the Huldee River. At day-break we commenced landing stores at Kedgerree. The work was completed in about three hours, the people assisting us with a cheerfulness and alacrity which I have seen at no other place which we have visited. We had the satisfaction, before we left the spot, of seeing nearly 600 people sitting round, and receiving without any confusion or difficulty their day's rations from the Gomastah. The relief here given was most seasonable, and was received with evident gratitude.

22 At Kedgerree I found Mr. West, Superintendent of Embankments, who kindly took charge of a store for the Hidgelee River, and engaged to land, house, and leave it in charge of the Gomastah I sent with it. We towed the boat nearly to the mouth of the river, and returned

to Kedgerree, whence Mr. Payne and myself started in the *Swiftsure* (to the Commander of which, Mr. Thompson, I am indebted for most energetic and valuable assistance throughout) for the Huldee. We had sent the cargo boats on in the morning, and we came up with them inside the bar at the mouth of the river at about 11 p. m. Now our difficulties commenced. The tide runs up and down this coast with great force, and the sand banks made the navigation very difficult. When the flood made on Saturday morning, we started for Balliaghatta, about six miles up the river, with one cargo boat in our wake. When we reached the spot, the cargo boat could not follow us to shore. The tide swept her past, and then her crew sat down after their manner, and allowed her to drift stern foremost up the stream for more than 2 miles. Our only resource was to anchor, and send men up the bank to tow her down. This we did, but we lost about four hours, the result of which delay was that, with all the expedition we could employ, we failed, after getting our depôt established at Balliaghatta, to reach the bar at the mouth of the river before the water was too low to cross it. Inside the bar, therefore, we had to anchor for the night.

23. The second cargo boat was intended for some place a little to the south of Diamond Point, and thither with great trouble we brought her having more than once to go back, or lay to, in the lugger to explain to the crew of the cargo boat how to trim their sail so as to follow us. At about 11 a. m. we reached a place which appeared suitable for the purpose, but before we could bring up the cargo boat, the tide turned, and she had to cast anchor half a mile below. Mr. Payne then very kindly volunteered to remain by her in the *Swiftsure*, while I went out in a boat to the steamer, which was by appointment waiting for us off the Point. I accepted his offer and went at once.

24. Very large stores were left at Balliaghatta and Diamond Point, so that another such troublesome voyage need not be made for some time.

25. I arrived at Diamond Harbour about half an hour after sunset, and found the *Teesta* Steamer waiting with stores. The stock differed very much from that which I had indented for by Telegraph, but it was sufficient to proceed with. I here received your letter regarding the formation of circles of enquiry into the condition of the several families in the distressed districts. This will form the subject of separate communication. Here also I met with Mr. French, the Assistant Superintendent of Police, who had missed the Tug when she started from Calcutta.

26. I landed a fresh store at Diamond Harbour, and after picking up Mr. Payne and Mr. Thompson, who came up from Diamond Point at day-break on Monday, passed on to Kookrahatee. The Gomastah here gave me a very bad account of the inhabitants. They were greatly dissatisfied, demanding large supplies to take away to their houses, asking for things which he had not given, and threatening and annoying him in various ways. He attributed his difficulties, I suspect with some truth, to the Naib, whom I have before mentioned. I landed a small fresh store, for the stock previously landed was not nearly exhausted, a remarkable circumstance when the evident destitution of the inhabitants is considered. I do not suspect the Gomastah, but I will direct my special attention to this depôt hereafter.

27. From Kookrahatee I proceeded up the river towards Calcutta, re-enforcing the various depôts along both banks, and finally depositing a considerable store at Moyapore, a place which I had overlooked on the way down. I reached Calcutta at 7 p. m. on Tuesday evening, the 1st instant.

28. The subjoined Tables show the total quantity of provisions landed by me at the various depôts mentioned between the 24th October and the 1st November inclusive :—

29 The results of these operations I am not yet in a position to state except partially in respect to three or four places. Reports have been received from Gomastahs of Nuldari, Dhaja, Fulta, Fort Mornington, Kookrahattee, and Paroolpara. The first report of the Gomastah of Dhaja shows that he relieved nearly 9,000 persons in the course of five days, and at Nuldari about 18,000 were relieved in seven days. I shall be able hereafter to give an account of the whole number relieved at each depôt from the supplies sent.

30. All the Gomastahs have orders to send in their reports to me at Diamond Harbour, and to repair thither themselves whenever their stores are exhausted. The accounts of stores and cash with which I was supplied before I started by the Secretary to the Committee will be sent in as soon as they can be properly written up.

31. I have only in conclusion to observe that my thanks are due to Captain Williamson, of the Steam Ship *Teesta*, and Captain Spain, of the Steam Ship *Francis Gordon*, and to most of their Officers, for the ready assistance which they rendered me throughout the expedition. To the useful aid received from Mr. Thompson, of the *Swiftsure*, I have already alluded. It is scarcely necessary for me to make special mention of the energy and zeal with which the Revd. Mr. Payne has joined in the work. But for his help I could not have done in the same time above half the work which has actually been performed.

From D. J. McNEILL, Esq., Joint Magistrate, on Special Duty, to Secy.
Cyclone Relief Fund,—(No. 9, dated 16th November 1864.)

I have the honor to inform you that I left Calcutta on the 8th instant, taking with me stores, as per subjoined list, for the relief of the inhabitants along the banks of the river below Atcheepore. I made special inquiries at each of the depôts of distribution to ascertain the character and extent of the relief still required by the inhabitants of the neighbourhood, and regulated the supply accordingly.

2. Depôts have been established, as I have previously reported to the Commissioner of Nuddea, at the following places :—

On the East Bank.

Moyapore.
Nuldari.
Fulta.
Noorpore.
Diamond Harbour.
Culpee.
Rungafulla.
Saugor.

On the West Bank.

Dhaja.
Fort Mornington (or Makrapata.)
Paroolpara (Roopnarain.)
Kookrahattee.
Diamond Point.
Ballhaghatta (Huldee River)
Kedgerie.
Dowlutpore.

Of the Stations on the eastern side of the river, Moyapore, in my opinion, requires no further assistance in the shape of supplies of food. At all the remaining Stations, except Noorpore and Saugor, I have already stopped the supply of food to all able-bodied men. At Noorpore the same rule will be almost immediately brought into force. Saugor must still be almost entirely dependent on charitable assistance for a long period.

3. I have been able thus to limit the distribution on the eastern bank, partly because in some places the repairs of the embankments have been commenced by the Officers of the Public Works Department, but mainly because able-bodied men have now almost everywhere the opportunity of earning nearly double the wages which are given by the Public Works Department. The wealthier inhabitants, whose houses were destroyed by the storm, are now in very many places giving from 4 to 6 annas a day to the labourers whom they have employed to re-build them, and the result is that there is an unsatisfied demand for labour on the embankments, where it is paid for at the rate of about $2\frac{1}{2}$ annas per diem. Still there is distress; for the price of commodities at the hâts is high, the actual quantity exposed for sale is as yet insufficient, and the quality of a large proportion very bad. At the same time, therefore, that I have withdrawn all direct assistance in the form of food from those who are able to work, I have thought it well to double the daily supply to invalids, women, and children.

4. One main object I have had in view in directing this change has been to make some provision for the relief of those who are unable through age, sickness, or other unavoidable cause, to come daily in person to the depôts. Until lately only those who came in person received relief, and those only at the rate of half a seer of rice each, and other kinds of food in smaller quantities, i. e., just sufficient for their own consumption. For a while the demand for relief was so great that even on this restricted system hundreds, in many instances thousands, of people were fed daily at one depôt, and it was hardly possible to keep the depôts fully supplied; and very many must have altogether failed to benefit by the distribution. Now, wherever able-bodied men are struck off the list of applicants, the reason for the restriction has disappeared, and I believe that, by the system of granting double rations to those applicants who are still fit subjects for charity, the distribution of necessary relief will be much more generally and effectively carried out than previously. It was proposed, indeed, to increase the supplies given to the extent of allowing whole bales to be carried away. But the strong probability

of the stores being forthwith sold at high rates by the individuals who were fortunate enough to get them was a sufficiently obvious objection to such a course, an objection not without weight even where all the residents were of the poorer class, and most cogent where the community was held, (as in many parts, especially on the west bank, it is held) under the influence of a few powerful individuals and other many retainers. I may add that wherever I announced to the people the double change I intended to make, the arrangement seemed to give general satisfaction. They appeared to recognize the justness of the restriction imposed as to the number of the recipients, and to be pleased with the augmentation in the quantity of food to be supplied to each applicant.

5. Of the Stations on the western bank, Dhaja, Fort Mornington, and Paroolpara will require continued relief on the old plan for two or three weeks more. No work is procurable at present either upon the embankments or elsewhere, and men must still be supplied, as well as women and children. I have not thought it necessary to increase the rations at these places. Kookrahatee, Diamond Point, and Balliaghatta are three salient points of the tract which lies between the Roopnarain and Huklee Rivers. The whole of this tract was fearfully swept by the sea, and the damage done was very great. No work is as yet procurable there, and relief is still administered without distinction of age or sex. I found the distress here still so great, a great aggravation having been caused by the universal consumption of the rotten rice, which has been and is being distributed and sold in large quantities, and which has produced much sickness among the people, that I ordered the double rations to be given to every one, and left considerable supplies to meet the increased demand to be expected in consequence.

6. Kedgerree also I found still in urgent need of assistance. No work is to be had, and the large supply which I had left on the occasion of my first expedition had been exhausted two or three days before. I ordered the double rations here also, and left a whole boat load of provisions at the Dépôt.

7. At Dowlutpore, on the Hidgelee River, matters are in a more promising condition. The inhabitants have not lost so much of their property as their neighbours to the northward. One great cause of this is that the sandhills all along the Hidgelee Coast, the level of many of which is much higher than that which was reached by the storm wave, afforded a number of places of refuge for both human beings and cattle. Another cause, one which also tended greatly to diminish the destructive

effect of the inundation upon the crops, has been brought to my notice by Mr. O'Flaherty, the Executive Engineer at Contai, and it is a cause well worth attention.

8. From a circumstance that characterized the late gale, (in common with all circular storms in the northern hemisphere,)—the circumstance that the course of the wind within the circle of the storm lay from east to north, and so round to west and south, while the general course of the storm was northward—it came to pass that along the west bank of the river the first rush of the gale was felt from the eastward. This blast brought up the sea wave. But after a short time it was succeeded by the reverse gale from the westward, which forced the great mass of the salt water back across the embankments into the river, so that in some places the crops were not submerged by salt water for above an hour. On the east bank, on the contrary, the storm commenced with a land wind, and the sea wave rolled in before the return blast from the westward, after which the storm passed on and left the country flooded with water, which has not yet been entirely removed by drainage and evaporation. At a certain distance from the open sea the configuration of the river banks probably so affected the course of the storm, wave that the same alternate eastward and westward movement was not so marked. At any rate, above the Huldee I have observed no corresponding distinction in the amount of damage inflicted upon the crops on either side.

9. I expect to find, on the occasion of my next visit to Dowlutpore, that gratuitous supplies of food to the people in that neighbourhood may be altogether discontinued. But I have learned that it will be necessary to send supplies to two places at some distance inland, and to the westward of Dowlutpore. The effect of the gale in those parts which are traversed by the Puttermohun and Sankarpur khalls was to dam up the river water from the southward, and to inundate the country with fresh water. The crops have not been fatally damaged, but much present distress has been produced by the loss of other property. I propose to establish distributing depôts at Olalpore and Ramnugger. Mr. O'Flaherty has kindly undertaken to take charge of the stores on their arrival in boats at places but slightly removed from the points indicated. For these depôts, and for the further supply of others which I think it is necessary to keep up, I will shortly submit separate applications to the Committee.

10. Sangor will be dependent on charitable relief for many weeks, if not months, to come. There is a considerable store there at present,

and as the actual number of survivors in the whole island does not exceed 1,500, no further provisions need be sent there until the beginning of next month.

11. With reference to the want of articles other than food, I beg to state that at every place I have visited I have been met with an universal cry for clothing. Many seem to have sufficient to meet their absolute necessities; but I am convinced that the Committee could not confer a boon that would be more eagerly accepted at every place from Atcheepore downwards than the distribution of large quantities of the cotton cloth, of which I have up to date carried down some 24,000 yards, a quantity sufficient to clothe only a small proportion of the whole distressed population. I do not say that this relief is indispensable, but I venture to express my opinion that a measure which would so greatly contribute to the comfort of so many for whom charitable contributions have been made, would be a suitable one for adoption by the Committee. Blankets are not generally asked for, because the people prefer making wadded quilts for themselves to serve as coverings at night. But as the weather grows colder, they will be thankfully used, for the materials for quilts will not be at hand in sufficient quantities.

12. In some places string and implements for house-building are much wanted. It will not be necessary to send bamboos or timber, but "daos" (small hatchets) and kodals (spades) are in great request. Ploughs have been lost in great numbers, but it seems to be admitted that they can be made in most places by artificers on the spot.

13. The difficulty of procuring fresh water will very shortly become most pressing. Efforts are being made, with some success, to induce the people along the eastern bank to bale out the tanks which have been spoiled by the salt water. On the western side I have failed to rouse the inhabitants sufficiently to get any such works undertaken. At Diamond Point, indeed, and at Kookrahatti I managed to elicit a promise from some of the people to commence the work, the laborers receiving extra supplies from the depôt; but I almost fear that I shall find their energy to have been coeval with the length of my visit. I think that, for this one purpose, the Committee might advantageously sanction money payments, at rates not less than those adopted by the Public Works Department to laborers. Special Overseers must be employed and special accounts kept, if this plan be adopted. But I think that the occasion calls for special exertion, and whatever is done should be done without delay.

14. In conclusion I beg to add that fresh supplies need not be sent to any of the existing depôts for eight or ten days from this time.

List of Stores taken.

Rice	-	-	-	4,000 Maunds.
Dhall	-	-	-	1,000 „
Oil	-	-	-	210 „
Salt	-	-	-	70 „
Cloth	-	-	-	20,000 Yards.

Also a small consignment of kodals, kuteries, and string.

From D. J. McNEILE, Esq., Joint Magistrate, on Special Duty, to Secy., Cyclone Relief Fund,—(No. 10 A, dated 17th November 1864.)

With reference to that part of my report of yesterday's date in which I alluded to the demand for charitable relief in the interior of Hidgelee, I have the honor to apply for the following stores to be immediately despatched in Cargo Boats to the villages of Olalpore and Ramnugger.

Gomastahs will accompany the boats to take charge of the new depôts, and they will be assisted in taking them down by two Chupprassies of the Public Works Department sent for the purposes by Mr. O'Flaherty, the Executive Engineer of Contai.

Mr. O'Flaherty will himself receive the boats when they reach their destination.

List of Stores required.

Rice	...	...	...	...	1,000 Maunds.
Dhall	...	...	...	...	250 „
Salt	...	...	...	...	20 „
Oil	.	.	...	...	50 „

To be equally divided and shipped in two Cargo Boats.

Also 200 pieces = 8,000 yards grey cloth.

From D. J. McNEILE, Esq., Joint Magistrate, on Special Duty, to Secy., Relief Fund Committee,—(No. 13, dated 18th November 1864.)

With reference to paragraph 11 of my letter No. 9 of the 16th instant, I have the honor herewith to submit an application to the

Committee to supply me immediately with (60) sixty bales of Madapolans to be distributed from the sixteen depôts established along the river banks, two inland depôts in the neighbourhood of Diamond Harbour, and two, which will be immediately formed, in the interior of Hidgelee.

From S. C. BAYLEY, Esq., Junior Secy. to Govt. of Bengal, to Commr. of the Burdwan Division,—(No. 628, dated 4th February 1865.)

I am directed to acknowledge the receipt of your letter No. 1 T, dated the 30th December last, submitting a Report on the effects of the late Cyclone in your Division.

2. The Lieutenant Governor desires that his acknowledgments of their energetic and praiseworthy endeavors to mitigate the sufferings caused by the Cyclone may be conveyed to the following Officers :—In Midnapore to Mr. Smith and Mr. Robinson, the Officiating Magistrates; Mr. Adams, the District Superintendent of Police; Baboo Shamachurn Chatterjee, the Deputy Magistrate of Tumlook; Mr. P. Dickens, the Assistant Magistrate of Midnapore; Mr. Houghton, the Assistant District Superintendent of Tumlook; Mr. Johnstone, the Assistant Superintendent of Contai; Mr J. B. Pratt and Baboo Krishna Pershad Ghose, Deputy Magistrates; Mr. J. O'Flaherty, the Executive Engineer of Southern Hidgelee; and Mr. James Ridley, the Post-Master of Kedgerie. In Howrah to Mr. Craster, the Magistrate, and Mr. King, the District Superintendent of Police. In Hooghly to Mr. R. V. Cockerell, the Magistrate, and Mr. W. H. Ryland, the Deputy Magistrate of Serampore.

3. I am to request that the Lieutenant Governor's approval may also be communicated to Mr. D. J. McNeile, who has discharged the special duty entrusted to him with much energy and judgment.

4. You are also requested to communicate officially the acknowledgments of the Lieutenant Governor to Baboo Hecra Lall Seal and the Revds. W. Stewart and W. Sampson, of Serampore; Mr. Fraser, of Saugor; and Mr. West, of Dowlutpore, for the valuable assistance which they afforded to the Local Officers.

5. The Lieutenant Governor desires me also to place upon record his approbation of your own energetic labor in assisting and supervising the work of your subordinates, and to thank you for the full, complete, and satisfactory Report which you have now sent in.

